A STUDY OF

NATIONAL COMPETITIVE ADVANTAGE

IN CONSTRUCTION.

THE EUROPEAN CONSTRUCTION INDUSTRY.

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ABSTRACT.

The international construction industry is highly competitive with competition expected to further intensify. However, the market remains essentially heterogeneous with contractors able to express aspects of competitive advantage.

This research is concerned with the nature and application of competitive advantage.

Relevant theories are reviewed in order to examine and explain the general international market. From these theories, a suitable method was adopted to accommodate the attributes of international construction and to explain 'how, why, where and when' internationalisation was viable. This is the Porter model of national competitive advantage, adapted to accentuate the consideration of locations.

Through research involving major construction contractors from the UK and two competitor nations; France and Germany, each nation's 'national diamond' profile of competitive advantage was formed. This model was then applied to specific, economically distinguished, locations; Portugal, Spain and Italy, to examine the various characteristics of relative competitive internationalisation.

The combination of theoretical prediction and practical research revealed numerous elements of national competitive differentiation. These influence internationalisation, focussing consideration within a progressive framework of 'how and why, where and when'.

The research shows that relative competitive advantage enhances the area of viable internationalisation, through allowing competition to be undertaken within more economically mature nations. Further, this framework will also direct contractors to key areas for improvement in their relative competitive profile.

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Symbols and Abbreviations.

*. -- -- See Footnote.
%. -- -- Percentage.
km. -- -- kilometre.
sq.km. -- -- Square kilometre.
Mio. -- -- Million.
Mrd. -- -- One thousand million.
Bn. -- -- One thousand million.
MNE. -- -- MultiNational Enterprise.
FDI. -- -- Foreign Direct Investment.
GDP. -- -- Gross Domestic Product.
GNP. -- -- Gross National Product.
PPS. -- -- Purchasing Power Standard.
PPP. -- -- Purchasing Power Parity.
VAT. -- -- Value Added Tax.
f.o.b. -- -- Free on board.
c.i.f. -- -- Cost, insurance and freight.
ECU. -- -- European Currency Unit.
EMS. -- -- European Monetary System.
EAGGF. -- -- European Agricultural Guidance and Guarantee Fund.
EIB. -- -- European Investment Bank.
ERDF. -- -- European Regional Development Fund.
EDF. -- -- European Development Fund.
Eurostat. -- Statistical Office of the European Communities.
EC. -- -- European Community.
EEC. -- -- European Economic Community.
EUR12. -- -- European Community of the twelve: Belgium (B), Denmark (DK), France (F), Germany (D; FRG and GDR), Greece (G), Ireland (IRL), Italy (I),Luxembourg (L), Netherlands (NL), Portugal (P), Spain (E), United Kingdom (UK or GB).
Benelux. -- Belgium, Netherlands, Luxembourg.
GATT. -- -- General Agreement on Tariffs and Trade.
EFTA. -- -- European Free Trade Association.

OECD. -- -- Organization for Economic Cooperation and Development.

Currencies:	BFR: Belgian franc.	DKR: Danish crown.
	DM: German mark.	DR: Greek drachma.
	ESC: Portuguese escudo.	FF: French franc.
	HFL: Dutch guilder.	IRL: Irish pound.
	LFR: Luxembourg franc.	LIT: Italian lira.
	PTA: Spanish peseta.	UKL: Pounds sterling (£).
	$US: American dollar.	

NATO. -- -- North Atlantic Treaty Organisation.

NEDO. -- -- National Economic Development Office.

SIC. -- -- Standard Industrial Classification.

CHAPTER ONE.

INTRODUCTION.

This Chapter will introduce and define the international construction environment within which the research, as outlined, is set.

The research principally relates to the application and analysis of an adapted model of Porter's 'national diamond' of competitive advantage to international construction.

This research offers three prime contributions:

1. An enhanced system for the examination of internationalisation is developed and applied to international construction through an association of the Porter and Dunning models

2. The research centres on, and contributes to, the general theory of international construction.

3. The research specifically focuses on to the European construction market.

1.1 The International Construction Market.

International construction has distant historical associations but most rapid development was experienced only once the newly independent nations, within Asia and Africa, launched major development programmes during the 20th Century. Local firms were generally unable to cope with the demands imposed by large scale construction principally enabling American and European firms, who had greater capacity and capability, to expand their operations within these nations (1). The rise in construction activity in the Middle East

during the mid to late 1970's initiated a significant period of opportunity and success for the international contractor.

However, the boom stopped about 1982, initiated by a sudden decline in world oil prices. The causal influence of the demise of the Middle East market exacerbated decline in other international markets. Domestic consolidation followed this decline amongst internationalised contractors. Companies generally undertook horizontal diversification within related areas of their domestic construction market and/or developed vertical integration, backwards to materials supply or forwards into property development (2).

The international construction market has, since the Middle East discontinuity, seen the effects of cyclical recovery (3). International contractors have experienced a generally growing market with 1989 representing a seven year high, shown by the Engineering News Record Top 250 International Contractors winning $112.6Mrd of non-domestic contracts, up 20% on 1988.

Major projects serve as significant attractions to international companies, who are generally refining their global strategy to capture the potential of wider European development and Asia's emerging and newly industrialised countries. However, the international construction market is highly competitive and fragmented.

Competition relates to the cyclic progress of the industry, so that smaller companies tend to leave the market during lean periods, but the number of active companies soon grows as demand expands. This relates to the attributes of relatively low entry costs when compared to manufacturing, both domestically and internationally, and limited economies of scale.

1.1.1 The International and European Market.

It is possible to differentiate the non-domestic market between the international construction market and that of Europe.

The international market essentially incorporates Africa, Middle and Far East and South and Central America (4). Within these regions, European and US contractors had traditional superiority based on exported technology associated with financial packages. However, the development of international contractors from newly industrialised nations, with cheap labour and willingness to adopt new techniques, has served to discourage mature nation contractors from seeking opportunities within these regions.

The European market is also highly competitive, but unlike the international market is generally well served by indigenous contractors. Although these contractors offer broadly similar technology, materials and procurement techniques, differences do exist encompassing the characteristics of the nation and the contractor. Success relates to the relative configuration of these characteristics.

1.2 Definition of the Non-Domestic Market.

The non-domestic construction market encompasses work undertaken outside the contractor's domestic environment.

The international contractor may undertake work as a pre-demanded requirement or a pre-supplied form. The former requires initial client demand, while that which is pre-supplied is speculatively undertaken that demand will later exist. Since both these methods encompass international operations, both are acceptable in defining the non-domestic construction market.

The international construction market may also be differentiated according to the geographic area of activity:

between developed or lesser developed nations. Within the developed markets demand will generally focus on infrastructure enhancement, with capable indigenous contractors in existence. Within the lesser developed nations, demand will generally focus on infrastructure creation and development on large scale production sites with few or no indigenous contractors capable of undertaking such work. Both types of markets, and the intermediate nations possessing attributes of progressive development, are considered international within this research.

The international markets are therefore different. To accommodate such variance within this research, the study of international construction must assess comparatively configured nations, hence like-with-like.

1.3 International Construction Analysis.

The international construction market is a very large and complex environment with characteristics of demand, supply and production which distinguish the industry.

Analysis and assessment of the international construction market has generally focussed on the rate of market sectors development and the progress of contractors. This data and predictive assessments are essentially of a practical nature; demands, procurement methods, finance and macro economics.

However, such analysis does not generally incorporate fundamental theoretical elements of internationalisation, nor consider the practical application which may ensue from such research. Therefore, analysis may fail to integrate the aspects of'how, why, where and when' to internationalisation.

Seymour (5) observed this deficiency within his examination of the multinational construction industry relating that data, notably of empirical origin, was becoming more readily available. However, this data generally retains a primarily reactive structure being concerned with market opportunities

and configurations. Seymour further noted that 'how, where and why,' in explaining internationalisation ('when' is a pro-active condition, incorporation of which is an aim of this research), were generally omitted from previous literature, despite such analysis giving a better understanding of the dynamics and problems of the industry today.

1.4 The Research Model.

The main purpose of this research project is the determination of prime variables within the national and international market, together with the identification of their influence on contractor's operations.

This will be examined in the context of accepted and/or recognised theory of the multinational enterprise and competitive advantage with specific reference to construction, in order that an appropriate theoretical framework of analysis will be applied within this research.

These variables are examined in accordance with the Porter 'National Diamond' of competitive advantage (6). These, as the term implies, focus on the nation's characteristics, incorporating; Factor conditions, Firm strategy, structure and rivalry, Related and supporting industries, and Demand conditions. The framework also accounts for the influence of the nation's Government and for the influence of Chance. Each of these categories incorporates a range of sub-elements which influence the overall formation of the competitive 'national diamond'. However, the position is dynamic and components of the nation's profile may alter, increasing or decreasing their relative contribution to competitive advantage.

Differentiation amongst nations emphasises competitive advantage strengths and relative weaknesses. As such, more than one nation (three were actually used) was examined to determine

relative competitive national profiles. These nations are the UK and two main competitor nations; Germany and France.

Locations are an integral aspect of the international environment, each possessing specific characteristics. This research applies analysis to three particular locations which are individually distinguished by their economic development profiles, to relate the influence of increasing locational maturity to national competitive profiles.

1.4.1 The Research Propositions:

The propositions which are the basis of this research are:

Proposition One: 'The construction industry has unique characteristics through the demand, supply and product nature which distinguishes the industry from others. This distinction is emphasised within international construction'.

Proposition Two: 'Individual nations, through their particular characteristics, are differentiated from other nations. These characteristics form traits possessed by their indigenous contractors'.

Proposition Three: 'The theoretical framework for the assessment of relative competitive advantage from the general business strategy literature can be successfully applied to international construction, providing explanations which are of theoretical and practical application and importance to the industry'.

1.4.2 The Research Structure:

The research project is undertaken in two Parts.

Part One will focus on to theoretical analysis and the development of a research framework.

Part Two will focus on to the collection of data and empirical analysis.

The aspects of each of these Parts is as follows;

Part One:

1. Undertake a thorough assessment and analysis of the theories of the multinational enterprise and of competitive advantage.

2. Undertake an economic examination of the prime aspects of the national and international construction environment.

3. Integrate the industry characteristics to the theory of international competitive advantage developed in this research, to investigate company, national and international configurations.

Part Two:

4. Adopt a research method that investigates the nation states and locations. This will verify, justify and emphasise features exposed through the theoretical model.

5. Synthesise the national and industry characteristics with the theory of international competitive advantage, through discussion and empirical analysis, to develop further a theory of competitive advantage in international construction.

6. Offer conclusions based on the research that are justifiable using the adopted approach.

1.4.2.1 Empirical Research Structure:

Empirical research, as an essential and integrated part of the analysis, was undertaken in three main ways:

1. Meetings with people associated with the industry. These served to provide formulating data and review information during the development of the project. Such meetings included those with institutional bodies, merchant and commercial bankers, stock brokers and analysts, management consultancies, civil service departments, trade magazine journalists, consulting engineering companies and project management organisations. Some fifteen such meetings were conducted during the course of the research.

2. Interviews with executives from construction companies who currently, have, or intend to, undertake work within the international environment. These interviews served to provide guidance for research methods and later offered consideration of exposed features and results. Some twentyfive such interviews took place during the research programme.

3. Questionnaires returned from construction company's executives in accordance with the criteria adopted above. These ensured that a sufficient range and conformity of information was attained. These are detailed within Chapter 9.

All three components of the empirical analysis provided an enhanced understanding of the current industry structure.

Due to the exploratory nature of this study the theoretical and empirical developments contained within this thesis are therefore not based on a classical scientific approach of theory construction, hypothesis, data collection and acceptance or rejection of hypothesis. The approach adopted here has a close affinity to 'Grounded Theory' (7) and commenced with the research propositions and subsequently utilised a close interaction between theory development and empirical analysis.

In all cases of empirical data collection, confidentiality was assured due to the commercial relevance and sensitivity of the subject matter.

Analysis of the international construction environment is therefore assisted by the integration of theoretical study with practical research for the assessment of competitive advantage. Chapter 2 examines relevant theories to the analysis of 'how, why and where' to undertake internationalisation in order that a relevant, competent, framework of assessment for this research be identified.

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PART ONE;

THEORETICAL ANALYSIS AND RESEARCH FRAMEWORK.

CHAPTER TWO.

A REVIEW OF MULTINATIONAL COMPETITIVE ADVANTAGE.

2.1 Introduction.

The prime theory which forms the basis of this project's framework and analysis is that of competitive advantage as applied to MultiNational Enterprises. This provides a framework within which the company, industry of operation and the nation may be reviewed, at both the domestic and international level.

Theories examining aspects of international success may be traced back to the works of Adam Smith and David Ricardo in the eighteenth century. Since then, the need to accommodate ever more numerous and complex variables has lead to progressive theoretical development. Later models examined the competitive strategy of the firm, some assessing the aspects of an industry competing internationally, while others assessed national factors. These factors include aspects of culture, economic formation and history, integrated within a causal framework of how advantages are formed (1, 2).

An international company may be termed the MultiNational Enterprise (MNE) or MultiNational Corporation (MNC), to reflect the degree of non-domestic production undertaken in the course of international trade. The MNE has four prime alternative definitions (3):

1. Operating form, by which the firm owns, or controls, income generating assets in more than one country.
2. Structural form, where multinationality is determined by the organisation of the company.
3. Performance criteria, by which a certain percentage of output, or of turnover, relates to the activities

of non-domestic operations.

4. Behaviour criteria, reflected by the company's degree of geographic dispersion.

The first definition, operating form, most adequately represents the company's function, including the role of asset control and foreign direct investment (FDI).

Organisations may undertake internationalisation for a variety of reasons, related to internal and external pressures. These aspects include (4):

1. Observation of product trade cycles, to enter a market within a growth trend, possibly to offset market decline or stagnation elsewhere.

2. Reduced the intensity of competition experienced.

3. Capital utilisation and efficiency, which may incorporate product 'dumping', through lower tender prices in order to gain market share and disrupt market competition.

4. Geographic diversification, predicting potential future benefits.

5. Capturing market potential, incorporating synergy of operations.

The success of internationalisation relates to the availability of the following factors (5):

1. Possession of competitive or ownership advantages over the host nation's companies and competitors from other nations, sufficient to offset the additional risks and costs incurred by internationalisation.

2. Advantages must be commercially exploitable by the organisation.

The variety of methods available to enter the international market emphasise certain, progressive, stages (6):

1. Ethnocentric - emphasising the company's domestic base and characteristics rather than the host nations', as with product exporting.

2. Polycentric - incorporating aspects of both the home nation and the international market, or particular host nation, for example, within a multinational joint venture agreement.

3. Geocentric - international orientation, as may generally be found within Foreign Direct Investment (FDI).

Internationalisation generally incorporates a wider range of variables than found within purely domestic operations, influencing most aspects of corporate planning.

The main characteristics of internationalisation are that (7):

1. it is more competitive,

2. it is more heterogeneous,

3. it it more complex due to differing:

societies and cultures,

educational practices,

legal frameworks,

economic and political systems,

business ideologies,

Further, additional variables need to be accounted:

4. home government to host government inter-relationships,

5. company to host government inter-relationships.

These characteristics may be seen as threats to international success, incorporating political, social, economic and financial aspects. They further emphasise the nature of internationalisation and determine that a suitable

theory of the MNE will be comprehensive, integrated and dynamic. Jauch and Glueck (7) argue that the overall influence of these aspects relates to the degree and nature of planning undertaken by the company. Therefore more competition encourages greater, more comprehensive, short term planning, while long term socio-economic instability restricts the extent of systematic long range planning (8).

The strategy adopted by the MNE to accommodate these variables relates to what is, what will and what should the business of the company be (9, 10). Strategy incorporates the scope of the business, resource deployment and competitive advantage (11, 12, 13). These aspects may be distributed within a 'strategic ledger' which enables determination of resource allocation under a Strengths, Weakness, Opportunities, Threats profile, (SWOT) incorporating (14):

Strengths and Weakness aspects;

* - Organisation: structure, management, procedures,
* - Personnel: attributes, experiences, numbers,
* - Marketing: sales force, customer service, line breadth,
* - Operational Research and Development: production facilities, production skills,
* - Finance: size, growth, price/earnings ratio.

Opportunities and Threats aspects;

* - Market: size, growth, profitability,
* - Competition: strength and exit/entry barriers,
* - Economics: inflation, interest rates, exchange rates.
* - Government: support, wages,
* - Technology: maturity, patents, complexity,
* - Social: unionisation, demographic trends, ecology.

Productivity output achieved by the organisation is generally closely related to home nation and industry success. Therefore, economic advantage is gained through exporting relatively competitive produced goods and services, while conversely importing requirements in which self-production is less economic.

From the above it may therefore be noted that international interaction will generally offer a culture and strategy which reflects, to some extent, that of its home nation. This relationship confirms the importance of examining the nation, the industry and the company within an integrated framework.

2.2 Multinational Enterprise Theory.

The analysis and review of the MNE can be traced back to the 1930's, principally within the works of Coase (15) and Kaldor (16). However the conventional formulation of the theory lies with the doctoral dissertation of S. Hymer (17) published in 1976. Major contributors to Hymer's work were Bain and Dunning (18).

There have since been many contributors to the subject, with writers typically dividing consideration of the MNE undertaking internationalisation into three broad classifications. These are: 'How', 'Why' and 'Where'. An additional aspect, 'When', is important to the dynamic analysis of MNE's and is formed principally from the integration of the elements of the broad classifications (19).

However, for some fifteen years, corporate strategy has principally centred primarily on 'how' and 'where' to compete, suggesting equal importance between the two, with 'why' being accommodated as a secondary aspect. However, this is not necessarily the case. Typically, knowing 'how' to compete is more important than knowing 'where' to compete (20). This is particularly the case within many service industries or certain manufacturing industries which have limited barriers to entry. In these situations competitive advantage stems from product advantage, rather than principally locational factors, which are more significant within high capital cost structures. Further, 'where' to compete is generally more readily assessed than 'how' to compete, with data available concerning markets, customers and product segments. This data may be readily copied by competitors, possibly creating a herd instinct amongst those companies concerned and resulting in a dissolution of market attraction.

Identifying growth markets, or those markets reaching over-capacity and the ensuing profits squeeze, is an important

aspect of strategy. However, it is not necessarily appropriate for the company to act as market leader in order to gain an overall advantage. It is often the fast market followers who are able to build a sustainable competitive position as lower cost producers, since the costs of innovation and risk will have been principally met by the sector leaders (21).

For any company, the constantly changing aspects of competitive advantage constitute the prime elements of potential success (22). Time is a key aspect of this change representing money and productivity. Dynamic responses to change may be created by the use of the following, not necessarily mutually exclusive, options (23):

1. Seeking co-existence with competitors. However, this may lack stability due to limited cooperation or a lack of trust.

2. Retreating in the face of competition. Consolidation, market focussing, out-sourcing (production distribution) and retrenchment are methods of limiting competitive exposure.

3. Attacking competitors, directly or indirectly. Direct methods include head-on competition with price discounts and additional capacity. Indirect attack employs the aspect of surprise with competitors restricted in their range of counter actions, either because they do not understand the manoeuvre, cannot respond due to a lack of time or suffer corporate incapacity to effect a response.

Currently, the trend in MNE theory is towards a general theory of the firm and its overall environment, developed from the aspects of internationalisation.

2.3 How do MNE's Compete.

2.3.1 Industrial Organisation.

An international company, in order to survive, must successfully compete with indigenous foreign firms.

Hymer (24), examined the requirement to seek and sustain competitive advantage within this context. This was initiated by establishing the prime disadvantages of internationalisation, which included:

1. Indigenous firms have advantages of consumer knowledge, awareness of procedures and are generally more readily accepted by customers than non-domestic companies.

2. Non-domestic firms will incur a cost of 'foreigness' which includes additional communications, travel and operations expenses.

Hymer sought to show that by application of competitive advantages, the incoming company could diminish such barriers. Hymer determined that Foreign Direct Investment (FDI) will occur in situations where the market is relatively inefficient and competitive advantage may be gained. This situation is further emphasised with intellectual property where ownership may be a significant issue.

Kindleberger (25) enhanced the Hymer analysis to demonstrate that in a pure competitive market, product export would replace licensing or FDI as the only form of competitive international involvement.

The Hymer-Kindleberger (H-K) model focussed on the need to establish the possible range of advantages possessed by non-domestic companies. Kindleberger assessed four prime areas of internationally transferable advantages. These are (25):

1. Deviation from perfect market conditions including product differentiation, pricing policy and market focus.

2. Deviation in factor conditions such as intellectual property, capital and skills.

3. Internal and externally sought economies of scale.

4. Government policy and intervention.

H-K also established that the actual method of international investment was important, with selection between direct and indirect investment relating both to anticipated profitability and market conditions.

However, the H-K model is more appropriate to firms becoming multinational rather than those already operating within the international arena. This is reflected by the main assertions: market knowledge, locational competitive advantage and the existence of economies of scale.

The H-K MNE analysis is fairly comprehensive and creates a workable framework, but the model may be criticised on the following grounds:

1. Locational considerations of the company are not accounted for, hence motives and predictions for internationalisation are omitted.

2. Cost of 'foreigness', as noted by Buckley (26), may exist in various forms, accentuated internationally by national heterogenesis.

3. Competitive advantages, which relate to the degree and nature of foreign involvement, are dynamic variables which the H-K framework is unable to cope with. This omission was partially approached by Lall (27) who divided competitive advantages into their respective source, ie. firm, industry and the nation.

2.3.2 Currency Differentials.

Aliber (28) developed aspects of the H-K approach, focussing on the influence of advantages created by national currency differentials. This model accounts for inherent risk adversity and seeks to minimise the uncertainty of exchange rates. This generally translates to less stable economies offering higher interest rates to offset the degree of risk experienced. The assumption is that the prime home nation becomes the source of the prime currency with all assets, regardless of location, being assessed in that currency. Hence, low risk, stable nation's companies will seek higher capitalisation rates within less stable countries. Stable nations, therefore, become the source of FDI, especially within capital intensive industries.

Aliber's model may however, be criticised on three aspects:

First, the model is directed towards one nation with the strongest currency, this being the source of FDI with its currency becoming progressively stronger due to MNE success abroad. This however, omits macro economic variables which will influence currency movement.

Secondly, exchange rate fluctuations are an inherent risk of international trade and therefore market observers would account for this phenomena, creating a dynamic situation.

Thirdly, although broad trends in the flow of international investments are accounted for, these are not fully justified at the industrial level where risk is the prime element assessed.

2.3.3 Product Differentiation Theory.

Caves (29) focussed on product differentiation as the main source of MNE competitive advantage. Possible options identified within this model ranged between an industrial region undertaking a variety of differentiated products, (to create horizontal diversification), to several industrial

regions undertaking variations of a similar product (to create conglomerate diversification). Caves established three main differentiated methods of internationalisation of the product from this assessment, related to certain conditions:

1. Economies of production, and/or proprietary technique, combined with a ready market for the product encourages trading methods towards exporting.

2. Intellectual property rights which can be protected, or limited economies of production, directs towards product licensing.

3. Internalised, but essentially non-proprietary, factors forming competitive advantage directs towards FDI.

Caves' model however, takes only limited account of the wide range of facets and variables of product differentiation available to create competitive advantage, ie. reduction in barriers to trade and the accommodation of risk. Further, the model does not account for cost factors within the options assessed. These shortcomings hinder explanation of the motivation and ability of the firm to externalise its competitive advantages within foreign markets.

Finally, economies of production appears to be an unstable basis on which to develop competitive advantage, its existence offering only some guarantee of success over an uncertain time-span. This is due principally to new technologies and methods.

Hirsch (30) enhanced the analysis of Research and Development (R & D) to demonstrate advantages available. Essentially, those already in possession of international skills are able to forecast and adapt their operations and methods, but in the longer term an appropriate investment and financial policy would be required (31, 32).

2.3.4 The Product Cycle Model.

The work of R. Vernon (33), focussing on industrial progress through the product cycle, has proved useful in the development of MNE analysis. Trade and investment, as part of this cycle, are accounted for in order to allow commercial exploitation of foreign markets. This model employs four prime assumptions:

1. Products progress through a discernible development cycle.
2. Technological information is restricted.
3. Production methodology is dynamic to economic conditions.
4. Product differentiation is primarily an element of price. This, therefore, assumes a degree of product homogenisation with regards to quality, form and performance - other aspects of differentiation.

Initially the new product, within the product cycle model, will originate in the most mature national economic markets. This condition relates to the degree of enhanced discretionary spending power in these markets and the general replacement of costly labour with capital investment.

Later, standardisation and economies of production develop affecting the product. This is typically matched by increasing market demand as the product becomes cheaper.

Once the product has become established on the basis of these conditions, the next stage of development is product export. This incorporates analysis of those international markets which offer the most rewarding profit margins. The application of factors of competitive advantage may enable successful product export to nations, even after multinational product standardisation. However, where such factors are not available within the domestic market, then FDI may replace

exporting as the prime method of internationalisation, this being related to low cost production nations.

Criticisms of the product cycle model concerning the progress of non-United States companies, contrary to those assessed by Vernon, and the ability of MNE's to integrate the staged production cycle into one movement, has lead to further development. Most notably oligopolistic market conditions and general market behaviour now play a greater role within the model, reflected in the naming of the stages employed: Innovative, Mature and Senescent.

1. Innovative stage: At this level, due principally to competition and progressive socio-economic development, companies within advanced nations undertake R & D in order to enhance their competitive advantage. The theory determines that in order to improve the process of innovation, communication costs experienced by the company and the psychic distance to the market place will be minimised. The result is that the production activity takes place within the most advanced markets.

2. Mature stage: Economies of production are now established creating barriers, particularly amongst production, marketing and R & D, by the scale and nature of efficiencies attained. Competition and defence are important aspects of this stage, typically seen by 'leader following' and/or 'global market analysis', for regions where competitive advantage could exist. Once a region has been identified, other firms may follow in order to maintain their competitive position. The cycle continues until production exists in all suitable markets, by the majority of those involved.

3. Senescent stage: Competition eventually diminishes the economies of production as an entry barrier creating open market conditions. Some firms may leave the industry as margins decline. Those that do remain focussed on product and cost

differentials as the prime method of creating competitive advantage.

The Product Cycle Model has been used in some important studies including Hirsch (34). However, certain flaws exist within the model, primarily induced by enhanced and progressive sophistication of global interaction:

First, the model lacks the capacity to dynamically account for events.

Secondly, the progressive standardisation assumed is generally unrealistic due to numerous influencing variables.

Finally, the competitive effect of product development and stage cycles within the company are not fully incorporated within the model.

2.3.5 Oligopolistic Reaction.

Industry oligopolistic reaction may be seen as the commercial response to domestic rivals overseas activity. This was examined within the field of industrial organisation by Knickerbocker (35) who incorporated the process of 'leader following' within markets, in order to maintain a competitive company profile and to reduce the leader's potential exploitation of market conditions. This strategy is therefore competitively defensive.

The empirical work undertaken by Knickerbocker, with regards oligopolistic reaction, establishes an association between oligopolistic industries and the bunching or association of their actions, which is seen to be enhanced when profitability of the firms is accounted for. Further, a positive correlation between increasing national stability and the enhanced degree of bunching of industry members, to reflect cohesion of the

national market, was considered. From Knickerbocker's analysis, oligopolistic reaction was deemed to be significant to the activities of MNE's. However, the model may be criticised:

First, the explanation of bunching of corporate activity being associated with 'leader following' as a response to oligopolistic strategy may be incorrect. The same result could, for example, be explained if the motivation was profit maximisation since companies appearing to be following the leader firm would merely be employing the best market information available to determine 'where' to compete.

Secondly, the model fails to justify and account for the variable conditions of the domestic and international environment. A commercially favourable overseas market would expect bunching of foreign firms keen to exploit available opportunities. The competitive status of the company which is first to be established within such a market, in such circumstances, is therefore of limited importance. However, this directs the analysis towards locations, generally being closely associated with market intelligence for 'where' to undertake commercial activity.

Graham (36) enhanced the study of oligopolistic reaction by accounting for cross-hauling, or inter-change, of FDI as a retaliatory response of indigenous firms within the host market. However, this analysis does not fully justify the role of rivalry in terms of why companies may approach certain markets in the knowledge that competitive reaction is expected. Further, where such reaction is limited, the model does not demonstrate why these markets are not exploited further. This approach may therefore be seen as too general to be justifiable within typical oligopolistic market conditions.

Norman and Dunning (37) together with the works of Casson and Norman (38) focus on the aspect of FDI within oligopolistic market conditions. The former co-writers considered that ownership advantages encourage FDI as a way of alleviating

general factors of uncertainty within the market place. However, it was noted that it is unlikely to be merely a rivalry reaction to the actions of competitors, since market intelligence and analysis will generally have preempted this stage. Firm specific advantages therefore become more important within increasingly mature environments, reflecting progressive differentiation.

Casson and Norman further argue that market entry by non-domestic companies is difficult to restrict in large, mature markets or where product technology is generally standardised. Typically, increasing internationalisation will decrease the influence of barriers to entry, through reduced 'foreigness', nationalism and effects of non-tariff barriers, more notably within an oligopolistic market which generally experiences fewer market variables. However, market collusion is seen to be reduced by increasing product differentiation, progressive technology and management skills, confirming the relevance of oligopolistic factors to specific market performance and structure.

2.3.6 Methods of Market Entry.

Literature concerned with MNE's typically offers two prime strategy options on servicing foreign markets: FDI or exporting.

The selected strategy is principally related to 'how' and 'why' companies undertake international operations. Hirsch (39) compared these two options, determining that the least cost method would be accepted, after taking into account locational characteristics. Lall (40) considered that where transferable advantages existed within the company, then FDI would be the selected method, while internationally non-transferable advantages would encourage exporting.

These models therefore associate company advantages and structure with locational considerations.

However a third method of market servicing exists: licensing.

Buckley and Davis (41) determined that with the least external cost formation, compared to internal costs, location factors would direct the company towards licensing as the prime method of internationalisation. However, where internal costs are lower than external costs, due to corporate economies of production and internal efficiencies, then location is accounted for to select between FDI and exporting as the appropriate method.

Market analysis was further developed by Buckley and Casson (42) to show progression through the stages of exporting to licensing to FDI. This progression was associated to the function of progressive cost minimalising.

Rugman (43) incorporated advanced technological progress, producing a development pattern incorporating exporting to FDI to licensing. However, unlike Buckley and Casson's model, Rugman's model lacks the dynamic capacity that can take account

of the realities of changing events, and fails to justify market conditions at product inception.

Other alternative methods of market servicing also exist, ie. management contracts and joint ventures.

Dunning (44) argued that management contracts were appropriate where full reward and protection for the service offered was possible. Joint ventures would be more likely where skills and attributes of the company could be of mutual benefit to other parties in undertaking contracts, but could not in themselves be appropriately externalised due to aspects, principally of intangibility and corporate ownership.

There are numerous contributors to the study of 'how' to undertake internationalisation. But, from this assessment it is apparent that these models lack general application and are often flawed. However, the elements which they assess and the procedures adopted may be considered in later work for the construction of an appropriate framework to incorporate analysis of 'how, why, where and when' to undertake competitive international operations.

2.4 Why do MNE's Compete.

The prime factor in why do MNE's compete lies within the corporate structure which, accounting the elements noted below, demonstrates the importance of internalisation. Companies therefore compete as entities to maximise these aspects of competitive advantage, rather than entertain externalisation as a widespread option.

2.4.1 Internalisation and the MNE.

Internalisation, as an appropriate consideration to explain the existence of MNE's, has been progressively developed since Coase (45), demonstrating substitution of external procedures with internal coordination for production economies. Coase developed Kaldor's (46) proposition in which the entrepreneur coordinates the production function. This method employs smaller, individual, transactions each of which may be subject to economies, which are notably enhanced by reducing uncertainty. The model also accounts for potential entrepreneurial profit whereby control of factors of production internally will serve to retain profits within the company, which may otherwise have been externalised.

The model formed by Coase also accounts for the possibility of potential negative economies within the company which may reduce the benefit of further internalisation. The main agents which serve to increase internal costs are (47):

1. Imperfect knowledge for decision making.
2. Information restrictions within the market place, where required data carries a cost.

Buckley and Casson (48), within their assessments, identified four prime components within the decision to internalise functions:

1. National features: political and fiscal aspects.
2. Regional features: socio-geographic factors.
3. Industry features: market and product characteristics.
4. Corporate features: management's organisation of the internal market.

These four components incorporate locational considerations within MNE decision making. The decision between internalisation or externalisation of functions relates to the interaction of costs and benefits (49). This will vary amongst industries relative to their structural formation. Therefore, industries incorporating proprietary information or employing multi-staged production offer increasing economies of production and are more likely to internalise.

Magee (50) focussed on internalisation as a method of incorporating and retaining information within the industry and therefore providing appropriate reward. This allows more precise cost control by limiting the influence of market imperfections. Further, progressive internalisation may increases barriers to new market entrants thereby increasing the company's competitive advantage.

Magee identified certain industry features which would encourage internalisation, to capitalise on competitive advantages of the company and/or industry, including:

1. High quality of after sales service required.
2. Product licensing costs.
3. Where product differentiation is significant.
4. Production knowledge skills.

Internalisation integrates information and accounts for the application of enhanced product technology. However, while this may be relevant to explaining the function of larger organisations other types of organisations may differ (51). This criticism reflects a weakness of the Magee model when

considering external variables, since it is not sufficiently comprehensive, primarily due to difficulties in empirical measurement.

The Buckley and Casson model, noted previously, provides for internalisation to create either a unified structure to replace previous externalised dispersion, or to serve as the basis of a new market structure (52).

This method may offer a variety of advantages including:

1. Enhanced coordination and control of procedures compared to external market negotiations, seen as reduced interference and intervention (53). Teece (54) extended this consideration to asset protection which was considered more secure and efficient when internalised.

2. Discriminatory pricing systems are more accessible to companies with internal procedures.

3. Reduced risks and uncertainties by limiting the parties involved, particularly for contract costs which may be increased by the enhanced influence of discontinuities.

4. Ownership is clearly assigned with internalisation, creating contractual security. This reduces the likelihood of licensing the product, especially when there is close association between goods produced and the manufacturer (55).

These considerations lead Casson (56) to argue that internalisation is less likely where product quality is controllable, and more significantly, external market interaction offers cost economies superior to internal procedures in such circumstances. Casson also identified certain additional costs involved with internalisation:

1. Internalisation systems generally cause company reward schemes for efficiency and effort to be more abstract than those directly integrated to the external market. Externally therefore, costs may be more readily accounted. Organisational

procedures may therefore be required to mitigate this potential restriction.

2. Internalisation may prevent optimum efficiency and synergy of production being achieved. This is due to fragmentation of company functions, as each seeks individual benefits.

3. Internalisation of all, or many functions, may restrict a company contemplating diversity since commercial involvement with external agents may have been limited. This could restrict the company's experiences and integration with non-domestic operations and methods. This may be particularly prominent within the international environment. In such circumstances nationalism and the cost of 'foreigness' may be key factors to additionally overcome.

Therefore, when attempting to overcome social, cultural, language or political hostilities externalisation may be employed to assist integration. However, consideration needs to be given to the fact that internalisation of functions in such a situation would serve to remove them from possible unwelcome interference and enable the reputation of the company to be maintained, serving as a basis of competitive advantage. Internalisation also incorporates coping with the 'psychic distance' incurred by foreign operations. It is therefore important to consider the degree of internalisation appropriate in each situation.

These elements of internationalisation primarily focus on to product diversification. However, financial diversity is also possible, incorporating non-trade investment in order to gain from the operations and functions of others. This includes equity share and monetary support.

Rugman (57) argued that the role of international diversification by MNE's had resulted in superior market performance, compared to purely domestic companies. This was,

according to Rugman, mainly due to capital market imperfections which enabled enhanced rewards to be gained. Rugman's model however, may be criticised for relying too heavily on capital market imperfections as primarily causal to the existence of MNE's.

First, financial markets rather than offering imperfections and inefficiency are in fact efficient markets. This is due to the range and quality of information available and the numbers of agents involved.

Secondly, by focussing principally on finance, management control and behaviour are omitted despite their valid application to MNE analysis, as identified previously.

2.5 Where do MNE'S Compete.

The international location of MNE's is commonly neglected, but should be an integral element of MNE analysis.

Locational features affecting market choice include (58,59):

1. Raw materials, encouraging vertical FDI.
2. Cheap labour, encouraging production facilities.
3. Protected/fragmented markets, encouraging FDI as the method of market servicing.

Dunning (60) identified certain advantages of MNE's, principally related to the appropriate employment of resources, which influenced their location:

1. MNE's offer enhanced potential for market exploitation.
2. Knowledge and skills are enhanced by MNE's, assisting future development.
3. Competitive advantage, particularly between nations, may be more readily exploited by MNE's.

Vernon (61) developed his Product Cycle Theory to account for MNE location and also identified that FDI was a likely option to capture and stabilise market demand, thereby enhancing production. However certain additional costs were considered including trading risks and nationalism.

Buckley (62) also identified the importance of location, notably through cost influences and internationalisation motivation. Hence, market size, trade barriers, production economics, sociological and market stability are also integrated into MNE models.

2.5.1 Japanese Direct Investment.

K. Kojima (63) formed a trade orientated, Japanese, model to compare home nations with advantages against host nations, based on locational factors. This model differentiated Japanese style foreign investment, which was considered to primarily involve trade orientation, against American style foreign investment which was deemed to be principally financial, non-trade, orientated.

The model sought to demonstrate that Japanese foreign investment follows relative competitive advantages which may be associated with macro economic policy. Therefore, industries which have lost competitive advantage within the domestic environment are relocated within nations where comparative advantage still exist. Therefore, Japanese companies could gain access to materials and low cost labour in return for their management and technology skills.

The American form of FDI was considered by Kojima to have a defensive trade position which would minimise foreign integration to the production activity cycle, relying principally on equity and portfolio investment.

Although the model has some use in representing locational factors to an MNE undertaking FDI, it may be criticised:

First, dynamic development of Japanese industry is under represented.

Secondly, differences in company motivation are under-accounted, such that trading patterns of the two nation's companies are too homogenized.

Buckley (64) also considered characteristics of Japanese direct investment which appeared to distinguish it from typical Western, (American),

investment, including:

1. Delayed initiation of Japanese investment.
2. Locational clustering in Asia and South America.
3. Enhanced intensity of labour utilisation.
4. Willingness for joint ventures and other associations.
5. Centrally controlled investments are more common.

Thirdly, reciprocal benefits of trade affecting competitive advantage exist, yet are not fully accounted for.

Finally, Dunning (65) criticised the Kojima model for its apparent under-estimation of the merits and value of internalisation, particularly when applied to intermediate products of the production cycle.

Hence, despite creating a worthy framework of analysis the Kojima model has apparent flaws which limit its general validity and application to analysis of MNE locations.

2.6 General Theories of the MNE.

A general theory should ideally associate and integrate the prime aspects of 'how', 'why', 'where' and 'when' do MNE's compete. While models exist to assist the explanation of the former three components of internationalisation, 'when' is rarely directly considered. However, the models reviewed generally provide an incomplete framework with respect to these items. It would therefore appear that a synthesis of models, considered below, will be required to adequately represent the role and function of the MNE within the competitive international environment.

The prime general models are:

2.6.1 Rugman (66) focussed on internalisation as an appropriate representation of the theory of MNE. This was mainly achieved by integrating location and ownership aspects. However, this method may be regarded as being incomplete since the factors are not fully interactive and the scope of the framework is limited in its application.

2.6.2 Calvet (67) considered and extended Williamson's (68) markets and hierarchies approach. Within Calvet's model, MNE's are a special form of company formation employing locational and organisational aspects. The company seeks cost limitation and efficiency which directs it towards MNE formation as a source of this goal. However, the model is not dynamic to market developments and is further limited by the possibly unrealistic corporate progression stages assumed.

2.6.3 Dunning (69) developed his general theory, couched within aspects of industrial organisation, location and internalisation considerations. The theoretical basis of this

model lies within the economies of a MNE which is involved in FDI. The factors combine to form the 'OLI' paradigm:

Ownership (O), Location (L) and Internalisation (I).

The presence of these three factors, according to the model, should ensure that international production can effectively take place. Conversely, the omission of one of these elements creates a condition within which it is unsuitable for the company to undertake internationalisation by FDI.

Dunning's eclectic paradigm identifies three conditions which are required for FDI to take place:

First, the firm has ownership or competitive advantages over the host nations' indigenous companies and/or companies competing from other nations.

Secondly, Ownership factors are enhanced when internalised within the company rather than externalised within the market, either by selling or licensing.

Thirdly, Internationalisation, assuming the two previous conditions are met, is to be more advantageous to the company than undertaking purely domestic production.

Ownership (O) advantages of the company generate certain attributes which serve to compensate for the additional costs incurred due to internationalism. Dunning distinguishes between the asset advantages and transactional advantages involved.

Asset advantages are typically related to the industrial organisation, while transactional advantages include elements accruing from internalisation.

Dunning identified three forms of transactional advantages:

1. Those which reduce the risk and uncertainty of international operations.
2. Those which maximise economies of production within imperfect markets.
3. Those which incorporate the benefits of externality and individual transactions.

Dunning considered that O advantages exist at three levels: the firm, the industry and the country, and were seen to offer a range of advantages.

Country specific advantages include the:

* Size and nature of the domestic market.

* Demand for related services, an additional source of market difference.

* Home government support, affecting the performance of the company, both directly and indirectly.

* Nationality of the company, relating to the range of national characteristics which may be exploited by indigenous companies.

The aspects of the industry level integrate with those produced at the level of the firm.

Firm specific advantages include the:

* Name of the firm, which encapsulates reputation, expertise and historical experience.

* Human resources and expertise, often forming the basis of a company's reputation.

* Services offered, relating to the company product and service provision.

* Size of the firm, relates to production economies and resources utilisation.

Location factors are generally immobile and therefore must be exploited at source. However, within the Dunning model, this is only possible when the conditions of Ownership and Internalisation are met.

Dunning considered that the influence of structural and transactional market imperfections will be significant for FDI. Therefore, market characteristics and their 'psychic' and 'economic' distance will be the prime determinant aspects. As within Ownership factors, country characteristics will be relevant to the formation of Location advantages.

Internalisation aspects are integrated with Ownership and Location. This aspect becomes more important in conditions where Ownership has notable intangibility, such as reputation and expertise. Internalisation relates to the adopted method of entering a foreign market, such that FDI and the export of specific services enables incorporation of the companies attributes. Conversely, externalisation involves the out-placement of aspects of the company, with market servicing being undertaken by selling or licensing, hence, unless adequate control on production exists, quality may suffer.

The Dunning model may be criticized for two main reasons:

First, the dynamic content of the model is limited with the three prime elements and their development being unclear.

As a response Dunning created an extension of the model in an attempt to mitigate this criticism. This employs an investment development cycle incorporating FDI (70). This

related the O.L.I aspects, allowing the nation to increase its role as a outward investor. Hence, the adaptation incorporates:

- Economic development.
- Domestic production characteristics.
- Failure of intermediate products transaction.

However, this association of economic development with income, while acceptable is still flawed. In particular (71):

The integration of macro and micro economic variables is not fully related and is over simplified in analysis.

The dynamic nature of the model is still limited.

Secondly, Internalisation within the model offers such a broad sphere of influence it is doubtful that a separate classification for Ownership advantages need exist.

This criticism is defended by Dunning (72). The Ownership factors are distinguished between industry and transactional market imperfections, depending on the industry and the firm's characteristics. This allows Ownership advantages to include competitive advantages which are possessed over indigenous and foreign firms.

The Dunning model provides a fairly comprehensive framework within which the elements of Ownership, Location and Internalisation may be assessed, to allow analysis of MNE involvement. But, even accounting for the model's extension, certain criticisms must be considered. The model appears:

1. Non-dynamic in analysis.
2. Convoluted in its complexity due to the interaction of O.L.I aspects.
3. Applicable primarily to manufacturing operations.

2.6.4 Buckley and Casson (73) considered that MNE analysis required enhanced development, principally centring on:

1. Increased awareness and integration of the role of general business strategy.
2. Enhanced dynamics of business procedure, encompassing development cycles, production and enterprises.

These are valid observations and are accounted for within the research model adopted.

2.6.5 The Porter 'National Diamond'.

Porter's earlier work focussed on competitive strategy, competitive advantage and competition within the global environment (74). The 'National Diamond' was developed from an extensive study of the competitive advantage of nations (75) and the use of previous research.

Porter seeks to demonstrate, through an examination of a wide range of cross-national industries, that the creation and sustaining of international competitive advantage and success stems from the dynamic integration of aspects of advantage based within the domestic environment.

Porter employs four, principally mutually dependant, conditions for the formation of the 'national diamond':

* Factor conditions.
* Demand conditions.
* Related and Supporting Industries.
* Firm Strategy, Structure and Rivalry.

In addition to these, Porter identified two additional variables which influence the national diamond. These are;

* Chance.
* The role of Government.

Chance may be seen at the heart of national advantage since it is causal to the conditions for invention and entrepreneurship and is therefore important in influencing competitive advantage, incorporating aspects of:

- acts of pure invention.
- major technological discontinuities.
- input cost discontinuities.
- significant shifts in global financial conditions.
- significant demand variations.
- political variations within foreign markets.
- wars.

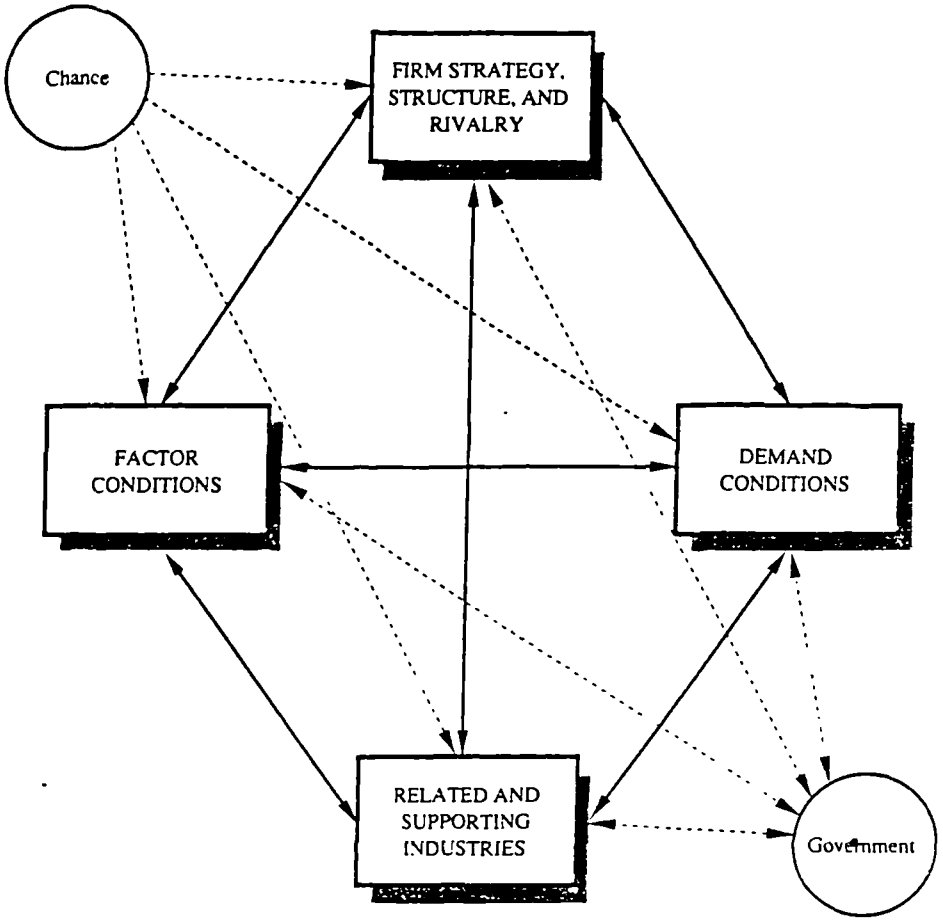
While chance events allow a potential shift in competitive advantage, national attributes are significant in determining which nations will exploit them. Therefore the nation with the most favourable 'national diamond' formation is most likely to convert aspects of chance into a competitive advantage.

The role of government will influence features of the 'national diamond', either directly or indirectly, typically serving to reinforce aspects of advantage.

The components of each of the national diamond aspects are assessed in greater detail within an analysis of international construction. However, the major components of the Porter model are introduced below.

Figure. 2.1

The 'National Diamond': The Complete System.



Source: Porter 1990. pg.127.

'Factor Conditions', or factors of production, are the basic inputs available within a nation. Although these elements are generally employed as advantages, competitive advantage based on actual disadvantages and omission of select factors may exist, since innovation and alternatives would be sought.

Factor conditions may be grouped into a number of broad categories:

* Human resources: the quality, skills and cost of personnel.

* Physical resources: the quality, cost, accessibility and abundance of a nation's land, water, minerals and other physical conditions.

* Knowledge resources: scientific, technical and market knowledge influencing goods and services.

* Capital resources: the amount and cost of capital available to finance industry.

* Infrastructure: the type, quality and cost of infrastructure available which influences competition.

Within these categories, factor conditions are divided into a hierarchy based on advancing specialisation. The levels are:

- Basic factors: such as natural resources, climate, location, unskilled and semi-skilled labour and debt capital. These factors rarely provide sustainable long term advantages.

- Advanced factors: include technical communications systems, educated personnel and research into advanced technologies. These are more significant for competitive advantage and enable higher-order advantages such as differentiated production and proprietary technology to be developed. The nation's advanced factors are typically built upon the development of basic factors and are more specialised.

A second distinction between factors of production is their degree of speciality:

- Generalised factors: includes roads and other communications systems, supply of debt capital and a motivated labour force.

- Specialised factors: such as skilled and specialist personnel, specific infrastructure and other factors with relevance to a specific industry (76).

The second broad determinant of national competitive advantage is 'Domestic Demand Conditions'. Three prime attributes of domestic demand are important:

1 Domestic demand conditions incorporates:

* Segmented structure of demand: competitive advantage is more likely within a large market where a clear direction for local firms to focus through their particular skills exists.

* Sophisticated and demanding buyers: increasing sophistication encourages innovation and development with pressure for higher standards and quality on producers.

* Anticipatory Buyer Needs: competitive advantages are gained if domestic demand profiles anticipates that of other domestic markets or other nations, encouraging product innovation and broadening the ability to compete.

2 Demand size and patterns of growth incorporates:

* Size of home demand: economies of production leading to national competitive advantages are more likely within large home markets which encourage investment and development. However, a large domestic market is not an advantage internationally unless it contains demand segments which are demanded in other nations.

* Number of independent buyers: a range of independent buyers stimulates innovation, entry and investment by reducing the risk of buyers abusing their bargaining powers and encourages competition.

* Rate of growth of home demand: rapid domestic demand growth encourages faster investment, innovation and adoption of new technologies as production capacity is utilised.

* Early home demand and saturation: early demand, providing it anticipates the needs of other nations, offers

advantages for production formation and application. Saturation extends early demand by forcing innovation and development, encouraging the advantage over others.

3. Internationalisation of domestic demand incorporates:

* Mobile or multinational buyers: an advantage is created since the domestic buyer with whom the company has trading associations, is also an international customer. This highlights the opportunity of developing an overseas presence (77, 78).

* Influences on foreign needs: domestic demand requirements and products may be transmitted to foreign buyers by training, exports, political alliances and scientific integration (79).

The third feature of national advantage is 'Related and Supporting industries'. Advantage may be created by:

* efficient, early and occasionally preferential access to the most cost-effective inputs.

* on-going coordination linking into the value chain. This value chain, which links the input processes from suppliers to the transformation process used by the company and on to the output process, reflects the nature and characteristics of the company (80). Ramsey's assessment of competitive advantage similarly considered this total business process to generate added value (81).

* through the process of innovation and upgrading emerging from a close working relationship.

The fourth aspect of national competitive advantage is 'Firms Strategy, Structure and Rivalry'. National advantages stem from the integration of choices of strategy and the

sources of competitive advantage available within each industry (82). This pattern is significant to the process of innovation and the degree of international success.

Other relevant aspects include:

* The influence of national prestige and priority on goals: quality of human resources and their degree of motivation is affected by prestige and priority of the project and of the nation.

* Sustained commitment: the commitment to capital and human resources reflects the goals of the company.

* Domestic rivalry: rivalry encourages innovation and improvement which incorporates all aspects of the business. Domestic rivalry is often more productive than rivalry with foreign firms since competition is generally more intense and commercial progress more appropriate.

* New business formations: company creation feeds the industry innovative process and develops more competitors which in turn spurs corporate development.

The Porter model incorporates a range of mutually dependant aspects. These measure the extent to which the national environment is a fertile one for competing in an industry. The 'national diamond' reflects many diverse elements of a nation and measures the success of transmission of these factors to the nation's firms.

2.7 Summary.

The explanations for why certain nations and companies are successfully competitive, while others are not, are varied and in some cases conflicting. The prime aspects of the above theories and models will however identify key aspects and variables.

National macro-economic factors are typically accounted for within the theories. This incorporates the state of the budget deficit, interest rates and currency strength for example. However, it is also possible to identify nations which have incurred adversity in one or more macro-economic conditions, yet have proved successful.

Labour availability and costs are also cited as a significant factor in national and corporate competition. However, there are certain nations in which labour was, or is, in short supply, or where wages were high. In these nations companies have automated or redistributed processes to enable competitive success.

Natural resources appear to be a prime aid to national prosperity. However, it is observed that some successful trading nations are in fact deficient in natural resources, relying on imports. This trend of importing products extends to specific national regions, who import from elsewhere within the nation.

Government policy provides a further explanation for economic prosperity. Although examples of strong government control exist which had resulted in economic success, some nations have proved successful with limited or even ineffectual government policy. Importantly, when the role of government has been centred onto an industry in order to enhance its prospects this has often proved unsuccessful in pure economic terms (83).

Although, social benefits may be generated, their value is often difficult to quantify.

Management practices provide the final general explanation for competitive success. Centralisation and hierarchy are the commonly assumed attributes applied to organisations. However, it is not always appreciated that the management requirements of companies will vary relative to their industry and national structure (84). Different approaches allow management success in one nation or industry with a style which would be uncompetitive elsewhere.

These are the considerations that are commonly proposed in economic and competitive theory. They are not without criticism, mainly through their lack of comparative analysis.

The capacity to be highly productive allows a nation to progress and develop in its social, economic and political spheres. Industries must seek to enhance efficiency, innovation and differentiation as the methods of competitive success to sustain advantages and hence growth in productivity.

The development of international trade has emphasised the importance of productivity and encourages specialisations where a particular advantage exists.

Technological change within the industry should also be accounted for. The progress and application of technological innovation has mitigated the influence of certain production factors. This has enhanced the nation's ability to gain advantage within a broader range of industries, due to technological transfer (85).

The theory to be employed must be able to account for these developments and other characteristics which have evolved. The model must be capable of differentiating between strategies and explaining why certain characteristics are emphasised by particular nations when competing internationally. Trade and foreign investment also require assessment and, finally the model must account for the wide variation of aspects which comprise competitive advantage within a dynamic framework.

Ideally, the model must be rooted in commercial applications and therefore realistic and effective in operational situations. This is a test of the model's competence and practicality. Of prime concern to this last point is that historically many relevant studies have focussed on just one or possibly two nations, or regions treated homogeneously, as a comparative study. While this allows certain useful analysis, it generally lacks validity and integrity particularly if, or when, the study is extended to other nations.

The method should therefore enable analysis of nations with differing characteristics and to expose prime aspects of relative competitive advantage.

The hybrid model which meets these requirements while providing a workable analysis framework is Porter's study of competitive advantage, principally combined with Dunning's O.L.I paradigm.

Chapter 3 introduces the characteristics of the international construction industry. This will act as a source of reference and will also serve as a framework for the formation of a construction specific competitive advantage review within Chapter 4.

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CHAPTER THREE.

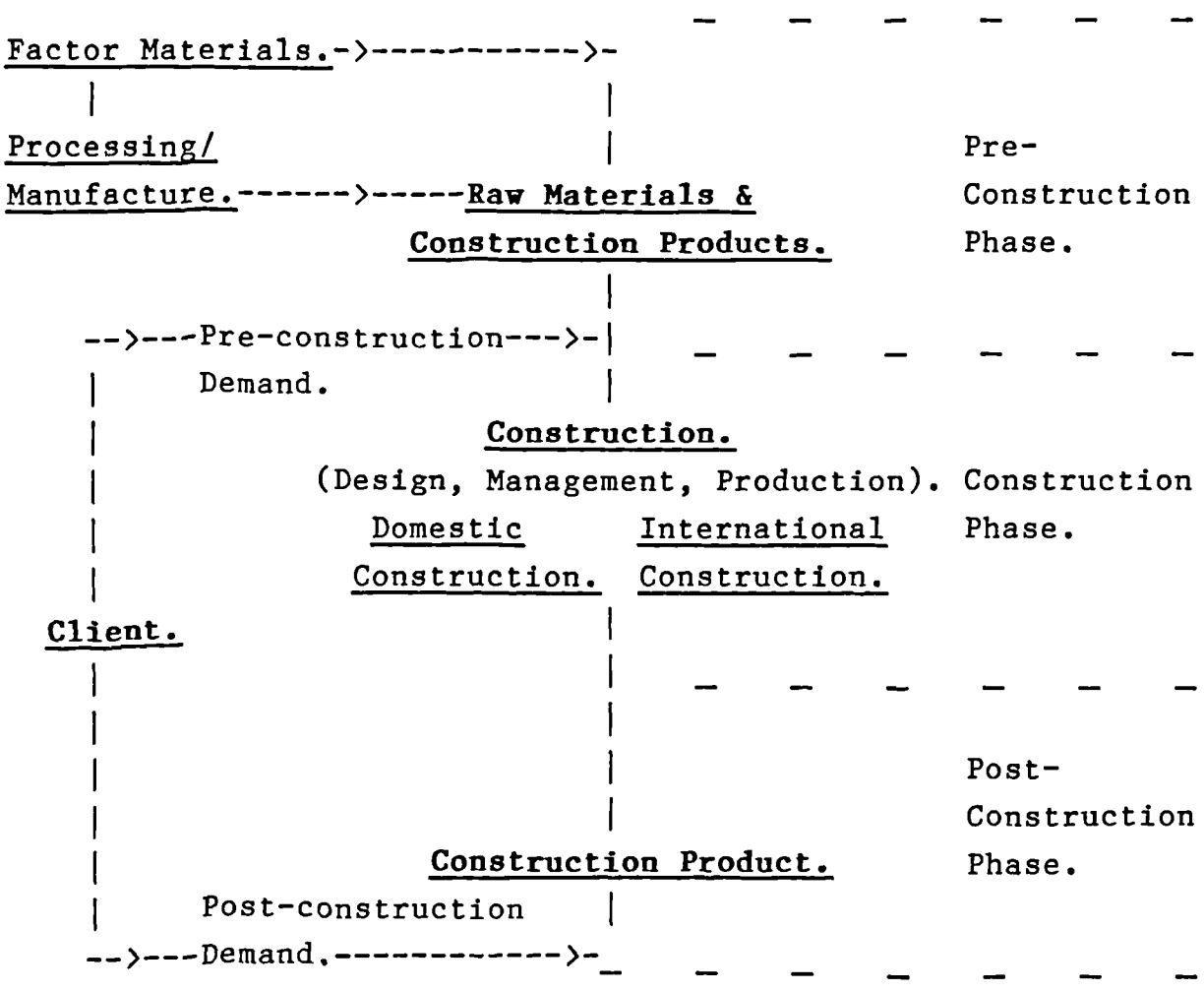
AN OVERVIEW OF THE CONSTRUCTION INDUSTRY.

This Chapter will introduce and assess the components of the construction industry, to provide a framework for the formation of a construction specific model of competitive advantage.

3.1. Introduction.

The construction industry comprises a series of interrelated functions, ranging from basic factor materials to the completed product. These elements constitute the construction process.

Figure 3.1. **The Construction Process.**



Source: adapted from Seymour. 1987.

3.2 The Construction Industry.

The importance of construction is related to three main attributes (1):

* size in terms of capital and employment,
* role as a producer of investment goods,
* interaction to the demands of the public sector.

Within a mature or semi-mature economy, construction constitutes the single most important industry. This accounts for between 7 - 15% of such nation's Gross Domestic Product (GDP), providing approximately half of fixed investments (2).

Hillebrandt (3) identified four main aspects of the inter-relationship between the economy and the construction industry:

* - demand and output levels
* - employment and incomes,
* - balance of payments,
* - level of prices,

The public sector may be a significant national client of the construction industry enabling a large proportion of demand to be regulated. However, construction is not an effective regulator for the wider economy due to the long time scale of construction projects which may result in later, inappropriate, market surges or depressions (4, 5).

Employing the Standard Industrial Classification (SIC) definition for construction within the UK, the value of construction's final product is approximately 9 - 10% of GDP. The industry's magnitude is further demonstrated by the level of employment, representing 7% of the UK's labour force - some 1.4Mio (6). This demonstrates the importance of construction and that industry conditions will significantly inter-relate with the general environment.

The estimated value of international construction activities employing the SIC definition is approximately US$500Mrd annually (7, 8).

The market has expanded since the 1983 collapse and by 1989, major international contractors undertook almost one fifth more work than in 1988, which was itself a six year high, worth $112.6Mrd (9). The United States had the biggest contingent, with 42 (out of 250 assessed) companies winning 23% of the value of the work through 34% of the contracts (Appendix:1).

Japanese contractors were awarded 7.6% of the work by value, a modest increase on the previous year. However, the number of internationalised Italian contractors continued to decline, being displaced by France as the top international European contractor. The main potential for future work stems from the larger Europe and newly emerging countries of Asia (10, 11).

3.3. Characteristics of Construction.

Construction is concerned with producing a wide variety of built products generally within a fragmented, diversified and flexible industry (12). Although the range of construction activities are distinct, contractors often undertake work in various sectors and switch between them as market conditions dictate. The size and structure of the industry is complex, incorporating international contractors, medium sized regional firms and small companies undertaking modest and/or specialist tasks.

Construction offers an apparently unique combination of characteristics which differentiate the industry from others. Hillebrandt (13) determined these as:

* the physical nature of the product,
* the structure of the industry together with the organisation of the construction process,
* the determinants of demand,
* the method of price determination.

The construction product is generally large, heavy, immobile and expensive being required over a widespread geographic area, generally under demand led conditions. Government forms the prime influence on demand conditions - either directly or indirectly, with a causal relationship between the state of the economy and the condition of the construction industry. Construction is typically one of the first industries to suffer from an economic recession as this is generally initiated by a decline in fixed capital investment. Conversely, reconstruction after recession places strong demands on the construction industry (13).

The nature of demand, for an individual contractor, may mean that any one contract comprises a sizable percentage of their work. Disruption or cessation of such work may create significant problems for the company. Determinants of demand are one aspect to be accommodated within contractors planning. Weather conditions are also likely to be significant to production. Further, because construction products are wide ranging, often encompassing unique attributes, the assembly process typically relies on the skills and experience of human resources (14, 15).

These characteristics encourage the local structure of construction. The product may rarely be readily stockpiled due to immobility, variations in demand and the consumption of contractor's capital (16). This encourages dispersion and fragmentation of the industry (17, 18).

3.3.1 Characteristics of the International Construction Industry.

International contracting is distinguished from domestic contracting through the level of risk, product nature and demand levels (19). In addition, specific barriers to trade may be identified as those created by (20):

* - Competitors,
* - Client's Government,
* - Domestic Government,
* - Clients,
* - Competitor's Government,

These features combine to enhance the level of risk experienced internationally compared to domestic construction. This may restrict the contractor from viably operating within certain markets (21). To overcome competitive disadvantages, alterations in market strategy may be required. For single projects this may be though joint venture partnerships with local firms. However, to mitigate transactional disadvantages a permanent, direct investment, commitment may be required, although this will restrict operational flexibility (22).

The main trade barriers which influence international construction include (23, 24, 25):

1. Barriers created by a firm's competitors:

a. Market power - may be formed as a monopoly enabling restrictive market conditions to be imposed.

b. Dumping - uneconomical low prices may assist contract award, gaining market entry and capturing market share.

c. Restrictive Practices - including bribery, collusive tendering and agreements. Unfair arrangements may also entail discounting front-end operations such as feasibility studies and bid formation.

2. Barriers created by the Internationalists Government.

There are various ways in which the internationalists (domestic) government may adversely affect the prospects of international trade.

a. Trade bans and economic sanctions - the strict control of certain products and services under a trade ban may rarely influence construction - outside high technology products, but economic bans may. These are applied to particular countries and serve to limit the potential opportunities available.

b. Regulatory Barriers - controls and set obligations, such as bureaucracy and financial controls, may exist which restricts the prospects of relative international success.

c. Taxation - high levels of taxation may affect the relative competitive profile of a nation.

d. Government intervention - subsidies by certain nations create an advantage over lesser-subsidised competitors.

3. Barriers created by a Competitor's Government.

Discriminatory support to competitors from third-party nations generally takes one of two forms.

a. Political pressure - political lobbying and trade missions could be used, as may stronger action through imposed sanctions.

b. Financial subsidies and Aid - assistance may exist as direct financial support or as an element of tied aid to particular countries. Although distinct, both methods enable a lower bid price to be submitted than would otherwise be feasible, although Aid programmes generally appear more acceptable.

4. Barriers created by the Client's Government.

There are numerous ways in which the client's government may disrupt the intentions and activities of foreign companies.

a. Domestic assistance to local companies - enables a more competitive bid than would otherwise be possible.

b. Controls on foreign establishment, ownership and restrictions on the channels of supply - limitations on the level of foreign ownership and the level of local input required encourages the formation of partnerships with domestic companies. However, such partners may lack suitable skills for contracting or seek competitive information from their new associates. Further, operating restrictions may be imposed on incoming organisation, particularly with regards required local staffing levels and the possession of operating licences.

c. Professional Practice Controls - non-recognition of foreign qualifications serves to disrupt the progress of the incoming organisation. Technical capability and/or proficiency in the local language are other forms of imposed conditions.

d. Restrictions on foreign personnel - quotas, movements limits, customs regulations, visa controls and work permits are some of the control methods which may be adopted.

e. Barriers to the imports of foreign goods - controls may restrict imports encouraging utilising of local products.

f. Controls relating to the use of intermediate services. Controls may be imposed which require that these be acquired from local companies rather than transposed internationally.

g. Discriminatory standards and technical regulations - highly specific or unique national standards may produced individual methods which are not internationally transferable and hence restrictive to incoming companies.

h. Lack of intellectual property protection - the prime aspects of a firms competitive advantage may therefore be unprotected within the international environment.

i. Discriminatory taxation - rates, specific applications and withholding benefits will influence profits and cash flow of incoming companies.

j. Foreign exchange controls - imposed restrictions on capital transfer and profit repatriation reduce the attraction of the nation as a site for activity.

k. General Bureaucratic Obstructions - delays, requirements, inconsistency and uncertain procedures serve to reduce the capacity to undertake the project effectively.

5.Barriers Created by the Client.

Client actions may create barriers through conditions which discriminate between different nation's contractors.

a. Pre-qualification - ensures that firms bidding for work are of an appropriate standard. However, the system may be employed to discriminate against certain firms or nations. Pre-qualification may extend to previous experience of the country concerned, an aspect causal to initially gaining work.

b. Tendering procedures - these may be complicated or costly through poor data being supplied by an unsophisticated client.

c. Contract Award - beyond the contract submission lies a range of aspects which may be considered by the client in the contract award, such as nationalism and cultural integration.

d. Form of Contract - non-standard provisions, contract alterations, lack of appropriate appeals procedure, general poor administration and the requirement to post a performance bond will all act to create barriers for project success.

3.4 Natural Resources in Construction.

Materials consumed within the construction process are generally the product of other industries. The range of materials required in a contract is typically diverse and may be seen as either basic natural commodities or as manufactured components (26, 27).

The availability of materials will vary geographically by geological and historical conditions. Construction consumes considerable amounts of bulky, typically low value materials which must be viably accessible and appropriate for suitable project effectiveness (28, 29).

3.5 The Client.

Construction demand stems directly or indirectly from the client, who exists within the public and private sector in addition to the contractor's speculative work (30, 31).

Public sector clients are divisible into two main categories. These are:

* - First, those who are charged with the provision of infrastructure and social products for use by the whole community under centrally funded schemes.

* -Secondly, those clients who provide a service for either the whole community, or towards specific factions, under a policy of 'user-pays' towards the cost of the service. Certain aspects of the UK transport industry remain within this category.

Private sector clients are also divisible into two main categories:

* - First, those clients who procure work for their own use from the contractor, or the contractor for itself.

* - Secondly, those clients who procure work with the specific intention of selling or letting the product to a third party.

Categories may also be segregated by being pre-demanded or post-supply (32). A product which is pre-demanded has a ready market and is effectively purchased before manufacture. Post-supply products are speculative and depend on a client being available to purchase the product, thereby incurring potentially greater risk to the contractor.

Construction, is usually procured under a discrete process, with the prime demands being for products of (33):

* further production, ie. manufacturing sites,
* additions and/or improvements to the infrastructure,
* social investments, ie. hospitals, schools,
* investment goods for direct utility, ie. housing.

These products are generally means of further production or communication, with the exception of housing and leisure facilities - which are means of consumption. However, certain facilities may perform both functions ie. roads and utilities.

The methods by which a client actually procures a product are varied by size, nature and characteristics of the contract and the historical experiences of client and contractor (34, 35). These are examined within the assessment of contractors.

3.6 The Contractor.

Contractors apply management and operational skills to resources, transforming them into pre-demanded or speculatively produced products. This typically focuses on the available skills of human resources, directing the contractor to specific

market sectors, the degree of success relating to the comparative expertise available (36).

Contractors may take a variety of legal forms (37):

* The Partnership.

* Sole trader or small businesses.

* Limited Liability Company: either;

  Public Limited Company (PLC), in which the public may purchase shares,

  Private Limited Company (Ltd) in which the shareholding in generally retained internally to the company.

The construction industry is highly fragmented ie. no company has a significant market share (38). Further, the industry is populated by many competitors who are in a weak bargaining position with regards to both suppliers and buyers, inducing marginal profitability (39).

Reasons for industry fragmentation include (40, 41, 42):

* Low overall entry barriers - relatively limited capital requirements, modest skills base and supply of labour.

* Limited exit barriers - relatively limited fixed capital requirements and the capacity to cease trading.

* Limited scale of production economies - margins earnt generally relate to market sector, not scale of undertaking.

* High transport costs - the heavy, bulky nature of construction materials encourages local contractors (43).

* Project demand dispersion - wide geographic spread of projects and demand variations.

* Variation and specialisation of market demands - the construction industry has many sub-industries each meeting a particular aspect of demand.

* Local regulation - local knowledge forms an advantage over incoming firms.

Two main methods of tendering strategy and procurement exist (44, 45): Negotiation and Competition:

Negotiation: Suitable contractors are identified either by historical association, market knowledge and/or by pre-selection invitation, then invited into contract negotiation.

Competition:

1. Open competitive tendering: the contract is open to all who meet the pre-qualification criteria.

2. Selective competitive tendering: the factors of pre-qualification are used to identify a group of appropriate contractors, who are then invited to tender for the project.

3. Two-stage competitive tendering: After a bid submission by the contractor, a second round of tendering or negotiation takes place to decide amongst the contractors.

These broad descriptions are integrated within various options of procurement, which may be employed internationally, enabling appropriate contract formation for the project (46):

* - Traditional,
* - Management Contracting,
* - Project management,
* - Design and Build,
* - Develop and Construct,
* - Separate Contracts,

This Chapter has introduced the elements and characteristics of the domestic and international construction industry. The industry is shown to be large, complex and to be influenced by many variables.

This information will now be incorporated within a framework of competitive advantage appropriate to the construction industry which forms the basis of Chapter 4.

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CHAPTER FOUR.

APPLICATION OF MNE AND COMPETITIVE ADVANTAGE THEORY TO INTERNATIONAL CONSTRUCTION.

4.1 Introduction.

From the previous literature review concerning competitive advantage and the MNE, two theories were identified as particularly relevant for this research into international construction. These are the Dunning eclectic paradigm (1) and Porter's model for competitive advantage and the role of nations, as formulated within the 'national diamond' (2).

Both models provide a general analysis of the elements of multinational involvement, rather than focussing on specific aspects. They further encompass a similar range of research requirements. However, as identified earlier the Porter model offers a broader, more theoretically defined framework of assessment than the Dunning model, although locational consideration and firm-level assessment appears better integrated within Dunning's theoretical structure. Therefore, although the Porter model will comprise the main basis of this research, the two models will be, in-part, synthesised to offer a broad analysis of international contractors and their locational considerations.

The two models are assessed below for the application to international construction, which was introduced within Chapter 3.

The elements of the Porter 'national diamond' are introduced first.

4.2 The Porter 'National Diamond' Model.

The formulation of the Porter framework has been previously noted, within Chapter 2, showing that there are four prime elements to the model, with two integrated secondary aspects. The prime elements are:

* Factor Conditions. * Related and Supporting Industries.

* Demand Conditions. * Firm Strategy, Structure and Rivalry.

The model's secondary aspects are:

* Chance. * The Role of Government.

Porter developed this model on the basis of extensive research, augmented by previous analysis of competitive strategy and advantage (3). This model demonstrated that it was no longer sufficient to create and apply merely the company's own business plan, but to develop the strategy in the context of the overall environment. This is further enhanced by analysis of what competitors might do.

Porter identified the value of industry analysis, within which the elements of competitive force should be continually examined to anticipate possible changes. These are (4):

* entry barriers,

* pressure from substitute products,

* bargaining power of suppliers,

* bargaining power of buyers,

* intensity of existing competitors rivalry.

However, Porter also determined that competitive forces are not static and therefore a framework of analysis must account for dynamic developments - both within and outside the industry. The strategy adopted by a firm to meet these objectives is based within the options of (5, 6):

* Cost leadership.

* Product differentiation.

A third variation is an amalgamation of these two options for niche market focussing. A company adopting niche specific operations will do so with a view to achieving greater success than that available by operating within the wider market environment.

In each case, the aspects of the model's constituents are related to their particular application and influence to construction.

4.2.1 Factor Conditions.

* - Human Resources: The quantity, skills and costs of management and labour are particularly important to international construction, often representing the prime characteristic of a contractor. Within certain nations, Germany for example (7), construction management is considered a valued occupation attracting educated engineers and managers. However, this is not the case in all nations.

* - Physical Resources: Climatological, geographic and geological resources form the dominant land characteristics of a nation. These conditions direct the knowledge and skills formation of indigenous contractors (8). This development may lead to the integration of advanced and specialised factors which could offer an advantage within the international environment. For example, Dutch contractors are particularly skilled in land reclamation and dredging due to the characteristics of their domestic environment and the work undertaken there (9). This skill is internationally marketed.

* - Knowledge Resources: The nation's stock of scientific, technical and market knowledge develops from innovation and experience (10). Knowledge of the market is particularly important to the construction industry due to the speed at

which market conditions can alter. The application of technology to construction is a dynamic process. Much of building technology has altered over the past 10 years and more will change over the next 10, principally due to the increasingly sophisticated demands of clients (11).

Knowledge resources are of considerable significance to international contractors. Certain nations, particularly within the recently developed regions of the Far East, have sought joint ventures and cooperation agreements with already skilled partners from developed countries with an objective of gaining knowledge resources (12).

* - Capital Resources: Access to and the cost of capital to finance the industry is a variable condition. The terms and conditions attached to capital are an important competitive issue for international construction due to the high project value (13). Further, certain nations may have an advantage due to the nature of their currency - certain currencies being more sought after than others. This currency 'strength' enhances purchasing capability, trade relations and stability serving as an advantage within the international environment. Hence, many international contracts are priced and costed in $US due to the attributes of this currency (14, 15).

* - Infrastructure: The aspects of national development incorporate transportation, communications, health and associated services infrastructure. These systems influence the quality and nature of the general industrial environment, typically relating to the development of indigenous companies. Therefore, developed markets are likely to be the base of mature organisations who are skilled in a wide range of industry sectors. However, within the international environment, such characteristics are often of greater significance in the host nation (16) since they assist development or form part of the infrastructure development programme.

Factor conditions or factors of production are the inputs required by a company to compete. The other aspects of the 'national diamond' interact with the Factor components to stimulate, enhance and develop the nation's competitive profile.

4.2.2 Domestic Demand Conditions.

This is a prime element of national development and progress (17, 18). The main aspects include:

* - Size of domestic demand: A large domestic demand encourages, and is causal to, economies of production through investment in fixed assets, technological progress and the methods to improve productivity as determined by industry characteristics. Within construction this will typically emphasise the role of human resources development in addition to the firm's particular aspects of competitive advantage.

The prospects for the development of particular skills is typically enhanced within larger markets through the greater potential for market specialism and sectionalizing. These skills may then be internationalised (19). However, such specialisms may also stem from national Factor conditions, as noted previously, or alternative aspects of Demand.

* - Number of independent buyers: Increasing demand fragmentation encourages certain characteristics:

- a large number of buyers disperses potential demand, which may limit the risk of demand decline which could be encountered by association with a limited range of buyers. A large number of buyers additionally enhances the opportunities for market diversity through variations in client demands.

- barriers to entry within a market are typically reduced through a wide range of buyers since wider variation in demand profiles is created offering broader opportunities.

Further, fairer trade conditions are generally created by progressive market development.

* - Domestic demand growth rate: The rate at which a market develops is important since a growing market will offer greater opportunities for companies than a stagnant or declining one. This is a direct relation to the scope of opportunities available and the potential profits which exists (20). Market development and growth will additionally encourage investment by companies, possibly incorporating vertical and horizontal integration (21, 22).

* - Anticipating buyers needs: Domestic demand for particular market sectors may form the basis of competitive advantages, both within the domestic and international environment, through anticipation of markets demands (23, 24).

* - Sophisticated and Demanding Buyers: Such clients seek increasing innovation and quality of standards from the product or service. However, within the construction industry, as with many industries, there is a wide range of demand requirements. This will restrict innovative sophistication to certain market segments (25). Contractors exposed to such demands experience progressive development which will serve as an aspect of competitive advantage. Conversely, contractors who are not required by their clients to attain higher standards may stagnate or regress in the longer term (26).

* - Segmented Demand Structure: Construction is a highly segmented industry with considerable scope for company specialisation (27, 28). Competitive advantage is created by identifying sectors which are in demand, or are likely to be so, enabling skills to be developed. The nation's Factor conditions may provide the basis for innovation and technology, segmented into market demands. These factors are generally further enhanced once the market reaches a stage of saturation. In such circumstances, superiority over competitors stems from progressive product distinction and cost efficiency (29, 30).

* - Domestic Influences on Foreign Markets: Progressive corporate globalisation and the on-going industrialisation of lesser developed countries (LDC) has created a widely segmented market of demand. Access to these markets will be influenced by historical and political associations, in addition to the capacity to perform the work (31). Non-contractual aspects will also serve to influence contractors operations within developed nations.

* - Mobile or Multinational Buyers: The progressive internationalisation of clients may encourage contractors to undertake work within the international environment. Such work carries a reduced level of risk since an historical association is established and operational methods often standardised. Client 'following' allows contractors controlled access, due to these attributes, to particular overseas markets which may result in obtaining further work. An example of this association is Bovis, the United Kingdom based management contractor and their long-standing client Marks and Spencer who undertake commercial developments within the international environment (32).

4.2.3 Related and Supporting Industries.

Related and supporting domestic companies which provide inputs into a company's function may also provide, within the Porter model, an opportunity for gaining international competitive advantage.

In the case of related industries, companies can coordinate and integrate activities of the value chain, examined earlier, or have access to complementary methods and products. The existence of a previous relationship or national affinity typically encourages the association of companies operating within related market sectors. This is particularly the case within the international environment.

An example of such relationship may be found within internationally orientated consultant engineering companies who favour contractors indigenous to their home nation (33, 34). In this case benefits from contractual and technological integration may be readily realised, although this association may not always be favourable. In some cases nationally related consultancy groups may seek higher standards from indigenous organisations than others, principally to assist preservation of their apparent integrity.

Supporting industries provide, in addition to the benefits established with related sectors, a more integrated mechanism of competitive advantage, incorporating:

- coordination linking into the activities of the organisation creating a more related structure.

- innovation and procedural enhancement through a close working relationship, offering cost efficiency or product differentiation.

4.2.4 Firm Strategy, Structure and Rivalry.

This element forms the framework within which companies compete and operate in dynamically variable situations. The way in which firms are managed and choose to compete is influenced by national circumstance. The scope of this aspect within the 'national diamond' is broad but may be divided into three main sectors: national, industry and company.

National Sectors.

The influence of national characteristics on the firm will affect the competitive profile of the organisation, broadly segregated between the external/international influences and those nationally internal (35, 36, 37).

First, this will incorporate national prestige and the degree of international industry integration, based within a reputation offering advantages. This includes such aspects as product quality and/or specialisation in market sectors.

Secondly, national socio-cultural and socio-economic systems incorporate training and education - at all levels of the community which includes language skills, the cosmopolitan attitude of the indigenous population, the structure of commerce, the availability of capital and the nation's political system.

Industry Sectors.

The industry level is important to the development of the firm, being the arena in which competitive advantage is won or lost, with two main considerations:

First, the positioning within an industry with the level of domestic competitive pressures which may be divided between demand and supply sources.

Demand source pressures reflect the bargaining powers of clients, which may have either positive and/or negative influence on the industry. Sophisticated, mature clients will encourage product innovation and quality, seen as technical investment. These conditions enhance possibilities of design, marketing, production and delivery.

Negative influences on the industry may arise from a lack of client commitment, particularly within periods of overall economic decline. This is at the expense of medium to longer term investment and hence later benefits.

Supply source bargaining powers reflect the position of contractors which typically decrease with progressive market development through increasing competition (38).

Secondly, industry structure and configuration incorporates rivalry, capital and human resources. Construction

companies within the UK are often regarded as relatively risky investments with limited financial foundation when compared to other industry structures. They also may appear to be lacking in commitment to staff training and staff retention. Rivalry, for the most part, focuses on the price submitted for the project (39). These characteristics decrease the opportunities for product differentiation. However, within certain nations such as Germany, contractors are generally seen as longer term investments, in addition to their role as cash generators (40).

These two central features embody the industry forces which relate to the determination of competitive strategy (41):

* - the threat of new entrants,
* - the threat of substitute goods and services,
* - the bargaining powers of suppliers,
* - the bargaining power of buyers,
* - the rivalry amongst existing competitors.

Firm Sectors.

The aspects of the firm may be divided into two broad sectors within an overall framework (42).

First, the company system incorporates the aspects of control, organisation and operations. The management structure of a firm is influenced by structural hierarchy, management's orientation and their culture in addition to the general attitude and motivation of staff.

Secondly, the company system will influence the reputation and integration of the firm within the market sector. This will be affected in the longer term by company history, location and experiences. Demand forces will be the prime influence for construction location, concentration or dispersion (43).

Internationalisation.

There are three prime configurations available to a firm undertaking internationalisation, although alternatives exist, as noted within Chapter 2 (44):

* - Exporting involves the manufactured products or services of one country being sold to another. This is based on their particular competitive advantages due to indigenous factor attributes. In the case of construction exports this is generally the provision of resources over a designated term for a particular task. Sub-contracting and management contracts are forms of construction export where their role is limited to the provision of a service. However, establishment within a foreign nation would constitute FDI (noted later).

* - Licensing of production involves payment for the opportunity to produce a product, generally developed by and under the name of another organisation to their designated standards. The licensee gains the embodiment of name, reputation and skills. However, while the standards designation and control for manufactured products may be straight forward, this is rarely the case within construction due to the heterogeneous nature of the product and the dependence on human resources for product development. Due to this potentially significant risk the licensing of construction activity is not common.

Standardised products enable franchising, a controlled form of licensing, in which only final distribution is undertaken by the holder of the franchise. This may be appropriate to certain forms of construction products where the final input is restricted, for example in proprietary equipment distribution.

* - Foreign Direct Investment (FDI) involves the establishment of company operations within another nation for the purposes of production. This may take the form of a 'greenfield' company formation, an acquisition or merger depending on the opportunities available and the commitment

sought. Joint ventures and industrial cooperation agreements involving non-domestic production are also incorporated within FDI. Construction FDI generally occurs when the company has identified a particular national market as an opportunity for their product over a reasonable time span - to account for the cost of establishment. Production may be demand or supply lead ie. contracting or speculative, in accordance with the demands of the market and the capability of the organisation.

Two further aspects of the Porter 'national diamond' exist - chance and the role of government.

4.2.5 Chance.

Chance, as identified within Chapter 2, may be seen to be at the heart of national advantage being generally causal to the creation of innovation and entrepreneurship (45). Chance allows discontinuities which shift the competitive position, possibly nullifying the advantages of competitors.

Pure invention and/or major technological discontinuities within construction are generally limited due to the industry's dynamic, progressive nature which encourages on-going innovation by improving an existing service or product (46).

Supply and demand influences include import discontinuities which focuses on sources of supply and demand variation, which causes a shift in resources either to capture new opportunities or to direct away from a declining sector. Major discontinuity of construction supplies may affect any product, but the influence is generally mitigated by material stock-piling and the ability to substitute products with alternatives. However, demand discontinuity within construction may be more significant. For example the rapid decline in the popularity of timber-framed homes in the early 1980's was due to adverse publicity.

Financial discontinuities within the international environment include interest rates movements, tax level variations and currency 'strength' alteration (47). These elements are important to the success of international construction due to the typical project size, capital consumed and the time scale involved (48).

Political variation within foreign markets is also an important consideration for international construction due to the potential disruption and the period of involvement (49).

The final aspect of chance examined is war where wide ranging, significant discontinuities may be encountered. However, construction companies may receive longer term benefits by inclusion within reconstruction programmes (50).

4.2.6 The Role of Government.

Governments exert influence upon all aspects of the nation's characteristics (51), broadly categorised as:

* - Education and Training. The quality of human resources is of notable importance to the construction industry. Government influence will affect the three prime levels of education - primary, secondary and higher (tertiary), together with vocational training initiatives. Education and training will incorporate science and technology which provides a basis of innovation, thereby assisting the potential for competitive advantage. Construction's education and training is however limited within many nations (52).

* - Infrastructure Spending. Public spending on physical developments offers a direct affect into the construction industry, together with possible further direct and/or indirect influences (53). However, in certain nations private investment is progressively being encouraged to undertake infrastructure projects whereby the role of Government may be seen to be that

of a facilitator rather than as a client - which may historically have been the case (54).

* - Financial and Foreign Policy. Government policies include capital flow, fiscal strategies and foreign relations. The direction and influence of such matters will be nationally variable and affect the policy of support to the construction industry. The restrictive monetary policies of certain countries, the high level of interest rates and the extent of the balance of payments deficit are all factors which influence the macro-economic environment of the contractor (55).

4.3. The Dunning Eclectic Paradigm.

The model presented by Dunning (56) provides a theoretical framework within which international construction may be based. The model identifies three necessary conditions required for FDI to take place. These are incorporated within the respective aspects of the model, such that:

* the firm possesses competitive or ownership advantages over firms indigenous to the host country and also over firms of other nationalities.
* Ownership factors are more advantageously exploited internally by the firm than by externalisation.
* when the first two conditions are met, it must be more profitable for the firm to undertake production outside their national boundaries than to service these markets by exporting domestically produced goods.

Dunning's framework offers a general approach encompassing the aspects of Ownership (O), Internalisation (I) and Location (L). All three aspects must, according to the model, be present for FDI to take place. The nature of this investment will seek to retain control of resources and the production facilities.

4.3.1 Ownership Advantages.

The first condition of the Dunning model relates to the nature of competition within international production:

'The firm possesses competitive or ownership advantages over firms indigenous to the host country, and also over firms of other nationalities'.

Hymer (57) determined that for competitive success within another nation, resources must be gained which exceed those of the indigenous organisations or of those from other nations, to

overcome the disadvantages of operating within a foreign environment.

Ownership advantages, as noted earlier, are derived from two main sources, the firm and the country, while industry specific aspects (a possible third source) integrates within these.

Firm specific factors.

These relate principally to price and/or product differentiation, related to the characteristics of the procurement system (58). This stems from a basic motivation to distinguish the firm from others in the market. This incorporates three main aspects (59, 60):

1. Name of the firm. The contractor's name will represent their reputation, experience and expertise and may be a source of significant competitive advantage. The name of a company may also be used within the international construction market as a method of pre-qualification through its representation - employed to prevent unrealistic bidding (61).

2. Human Resources. Construction success generally relates to the skills and experience of the workforce which are embodied within the name of the organisation. Product distinction and tendering success are therefore a relation of human capital. It may then follow that increasing technical sophistication of the product will progressively limit those companies capable of undertaking the work. Companies which are able to compete at this level would therefore encounter a market in which price is no longer the prime determinant in the decision to award a contract (62).

3. Size of the firm. A larger company generally has access to various aspects of advantage relative to a smaller company, thereby enhancing its competitive characteristics. For example, finance will be easier to attract - either internally generated or externally acquired by loans or equity. The resources of the group will be generally bigger and better enabling bidding on a wider range of projects. A larger, more diverse workforce will

be employed allowing more tasks to be undertaken internally. Competitive advantage will therefore be assisted by the application of these attributes (63).

Country specific factors.

The elements of country specific factors which influence construction competitive advantage typically divide into two aspects (64, 65):

1. Comparative advantage. At a national level a country will typically produce those goods and services which reflects its particular attributes, ie. the combination of its abundance of capital and labour within the size and nature of the domestic market. A prime production resource of international construction is human capital. Therefore the ready access to cheap skilled and semi-skilled labour in South Korea has allowed an exploitable advantage to Korean contractors who may export such resources. However, technology offers alternative forms of advantage, such that French contractors are highly skilled within power and process plant engineering through their understanding of the appropriate high technology. Comparably, Dutch contractors offer a competitive understanding of land reclamation as identified earlier. These skills are advanced through development and internationalisation.

Comparative advantage will also extend to the demand for related services (66), where those from the same nation may encourage bid success, as noted earlier.

2. Home country Government support. There are various aspects to government support. Financial support is the most apparent either appearing as direct support; project subsidy, relaxation on credit controls and the transfer of funds, or indirectly; by general aspects such as political and historical relationships (67).

Certain governments, France for example, take considerable interest in their construction industry offering assistance and coordination of tasks where possible (68). Such assistance

could be a significant competitive advantage as seen in the case of Korea which enables its international contractors access to cheap labour through an arrangement within the national service personnel (69).

4.3.2 Internalisation Advantages.

The second aspect of the Dunning model incorporates the employment of company functions, such that:

'Ownership advantages are more advantageously exploited internally by the company rather than externalised by means of selling or licensing those advantages to others'.

If a perfect economic market were to exist it would be possible to transfer - by sale or rent, the owned products of the company in return for reward without the potential risks encountered in internationalisation. Therefore, when internalisation is preferred, the potential costs of externalisation must outweigh such benefits. This decision will relate to the nature of the ownership advantage. Therefore, when an element is an amalgamation of the attributes of the companies reputation, image and skills then internalisation will be the preferred option. Externalisation of such aspects would create quality control problems and possibly adversely affect the company. Hence, with increasing complexity and association to the company it is more likely that ownership advantages will be internalised (70), while externalisation may be reserved for tasks which are exceptional to the company or offer little opportunity for competitive advantage (71).

In the case of international construction externalisation enables fixed asset commitment to be minimised in any particular location, hence reducing the political and commercial risks encountered by the firm.

The three main options open to an international contractor in exploiting ownership advantages have been assessed previously and will be only summarised here:

1. Exporting. The company moves personnel and equipment throughout the market in response to demands for their services.

2. Licensing. With the exception of certain clearly defined production products, few aspects within construction are suitable for licensing.

3. Foreign Direct Investment. (FDI). Production is undertaken within a foreign country on a permanent or near permanent nature. Due to the cyclical nature of construction certain market places may have a permanent token presence which can be augmented to meet higher demands.

4.3.3 Location Advantages.

The third aspect of the Dunning model requires that for FDI to be undertaken the merit of the task must exist:

'It is more advantageous for the firm to undertake production outside national boarders using internalised ownership advantages than it is to service foreign markets by domestic production and export'.

Locations are heterogeneous and are influenced by many diverse aspects (72). The decision where to produce is complex with firms seeking an appropriate mix of locational advantages to integrate to the nature of ownership advantages. This relationship implies that different nation's contractors are likely to assess locations differently according to the characteristics of their ownership advantages (73).

4.4 Competitive Advantage in International Construction.

As noted earlier and seen above, both the Porter model and the Dunning eclectic framework provide a conceptual view of the major forces influencing competitive advantage. However, due to the greater attributes of the Porter theory for the determination of Country Specific advantages, this was selected as the main model into which this research analysis of international competitive advantage will be founded.

Dunning's model serves to benefit the assessment of competitive advantage through its enhanced integration of locational factors. These act as a pull to enter a specific international market through national and competitive forces. Further, aspects which Dunning employs within Ownership and Internalisation may be also co-opted within the overall model to benefit the research analysis.

In consideration of the analysis of the two research models employed, certain statements may be made about competitive advantage in international construction;

* The strategy of the company must be formulated within the context of the overall environment including the activities of competitors - not merely by accounting the activities of the company. The prime objective is that internationalisation must be more profitable than domestic production, with prime ownership aspects of the organisation being generally most advantageously exploited internally.

* International construction is heavily dependant upon its association with the nation's Factor Conditions:

- quantity, skills and costs of management and labour.
- physical resources which influence market sectors, particularly advanced and specialist factors.

- knowledge resources which affect innovation and progress.
- capital resources availability enables activity, development and differentiation.
- infrastructure investment.

* Demand characteristics of the domestic environment affects market sectors, progress and opportunities, technical development and innovation in addition to the nature of market entry and risks. Further, the internationalisation of clients will be accounted.

* Related and supporting industries affect the organisation of international construction which may influence the nature and location of work undertaken.

* Industry structural positioning is affected by:

-the characteristics of barriers to entry,

-the threat of substitutes,

-the nature of buyers bargaining powers,

-the nature of suppliers bargaining powers,

-the threat of competitors.

* Company systems - determines the nature of the organisations management, reputation and operational method.

* A selection of market servicing methods exist for international construction - exporting, licensing and/or FDI. In addition, variations of these prime forms exist.

* Chance offers the potential for significant discontinuity and may be causal to innovation and entrepreneurship development.

* Government influence is potentially significant within macro and micro-environment conditions, which relates to the degree of industry support given.

* Location of international construction may be demand or supply led. In either case the formation and application of aspects of competitive advantage will be uniquely determined for each location.

These considerations determine that the research model for competitive advantage within international construction will incorporate the aspects of the Porter 'national diamond' and synthesise aspects of Dunning's model.

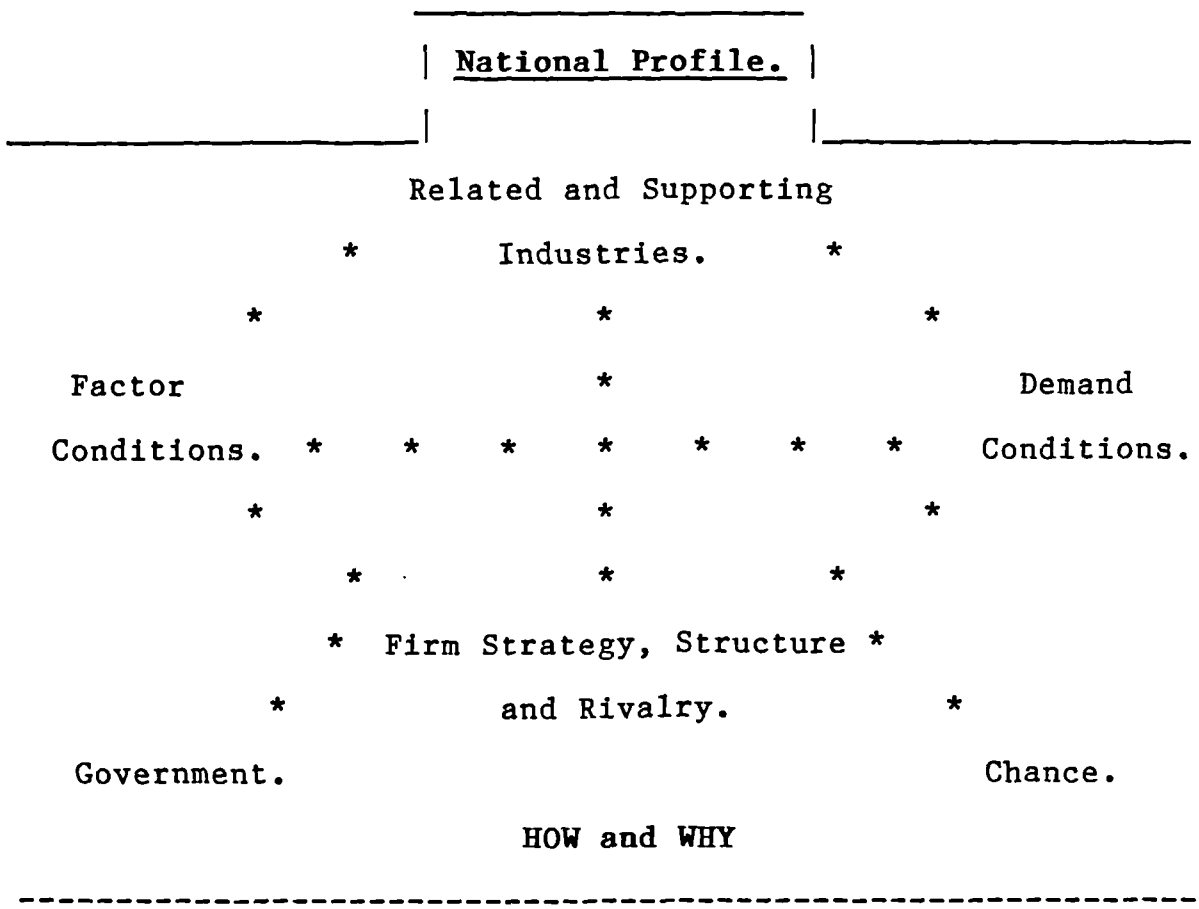
This model is developed further within the research from the basis shown in Figure 4.1.

The National Profile constitutes the basis of the model representing the aspects of 'how and why' to internationalise, hence the aspects used to seek competitive advantage. The decision to internationalise creates an International Profile which may be relatively applied to the competitive advantage configurations of competitor nations through Specific Locational Integration. This creates 'where' to compete, with 'when' being a dynamic aspect of maximising competitive advantage.

Having identified the aspects of competitive advantage within the theoretical models and the characteristics of international construction, the empirical research method employed within this study will now be assessed in Chapter 5.

Figure. 4.1

Competitive Structure in International Construction.



Adapted from Porter (1990).

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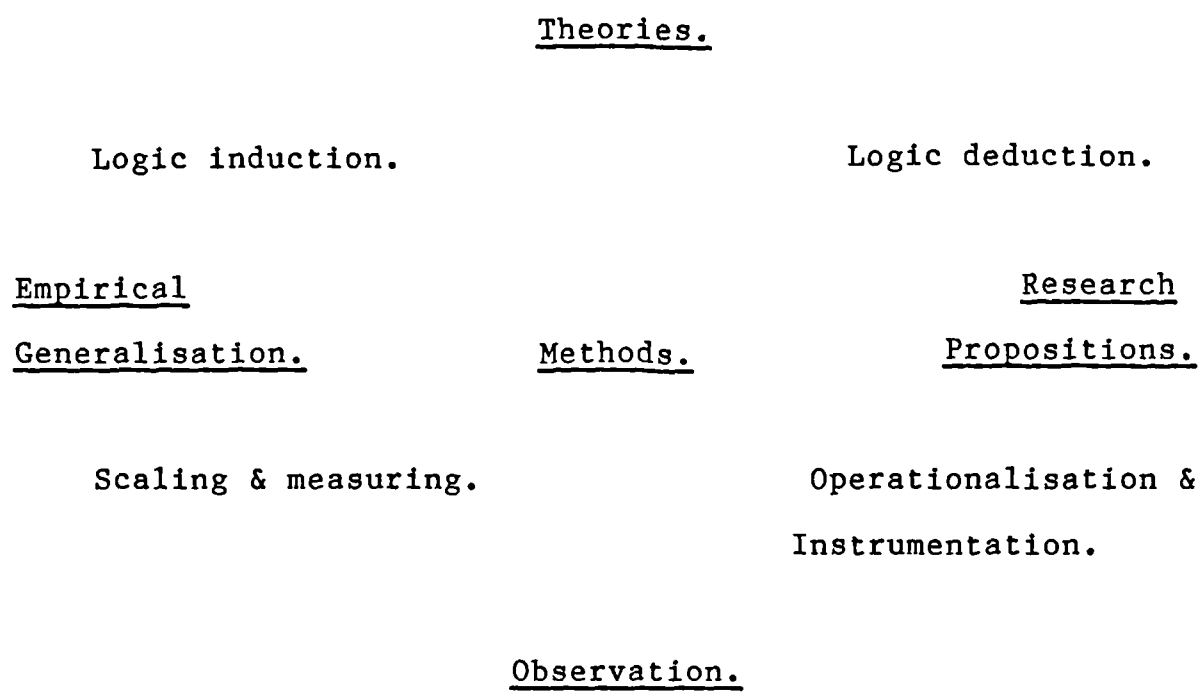
CHAPTER FIVE

RESEARCH METHODS AND STRATEGIES.

5.1 Introduction.

The prime components of scientific assessment, the framework of this research, are presented within Figure 5.1 (1). The framework is interactive, such that theories relate to logical deduction and appropriate research propositions. This system is translated into a workable format by sample observation. The data collected from such research may be examined for empirical generalisations, any pertinent information can then be feed-back into theoretical modelling, to enhance the basis of the study.

Figure 5.1. Components of Scientific Assessment.



Source: adapted from Open University. Block 1: Styles. (1979).

Scientific assessment has three main uses, though these may be integrated (2):

1. Policy orientated research: undertaken for a certain task.
2. Action research: undertaken as an aspect of wider analysis to influence action within a broad population.
3. Theoretical research: undertaken to test a theoretical statement or model, as in the case of this research.

5.2 Use of Theory.

Theory is important within this study for a variety of reasons (3, 4):

1. Prediction and explanation - for explaining different perspectives and providing understanding.
2. Advances in the appreciation of theory, both new and existing.
3. Advances in the practical application of theory,

Theory for use in research should meet certain criteria (5);

the process should be clear,

applicable to the data,

justifiable and verifiable.

Theory may be suitably formulated in accordance with the aims and objectives of the research, through sampling aspects of the research population (6).

Sampling incorporates collection, coding, comparison and analysis of the research objectives, in addition to group selection for the analysis (7, 8).

5.3 Qualitative and Quantitative Data.

Data is collected through research and analysis and has two prime categories (9, 10, 11):

* Qualitative data is generally concerned with perceptions and social insights. Within this research, such data was generally presented in interviews and documents.
* Quantitative data employs facts and scientific techniques, which within this research was mainly gathered from documents.

It is important that data collection methods are flexible and adaptable to new information although clear guide-lines should be adopted to focus the information provided to the aims and objectives of the research (12).

Data validity has two main categories:

* Internally, this will identify what causes an event and acts to examine the feature.
* Externally, this will reflect whether the results are transferable into other similar situations, if the survey were to be replicated.

Within this research, both internal and external validity will be sought (13, 14,), therefore (15, 16, 17):

*. Research propositions will be in a specific, determinate form.

*. Assessed variables will be integrated within the research structure.

5.4 Elements of the Research.

Having identifying the overall research region, comparative competitive advantage in international construction analysis will follow within a progressive structure (18, 19, 20), identified below:

5.4.1. Resources availability. This applies both in terms of the researcher's capacity and the availability of information, which relates in turn to the nature of the study.

Three prime sources of data exist within research (21):

* Primary research and sources which are collected from the sample group as original data, in accordance with the objectives of the research (22).

Within this research project, primary data came from interviews and questionnaires.

* Secondary data which is pre-existing information and may exist in various formats. Secondary data offers benefits of access and validity (23).

Considerable secondary data was employed within this research from many sources, relating theoretical aspects with practical study.

* Quasi-experimental methods combines research and experimental procedures, such as professional diaries (24).

This method was not directly used within this research project.

Data may also be classified as formal or informal (25).

* Formal sources include statistics, experimental and survey information, principally assisting research formation and grounding within this analysis.

* Informal sources include unstructured, possibly unattributable, data which may lack the validity of formal sources. Within this research, this incorporated various oral and written communications.

5.4.2. Structuring the research problem.

This took the form of analytical induction through an assessment of secondary data, in which explanations were generated. These explanations were assessed to expose pertinent issues (26).

The model adopted must be operational ie. testable and also feasible (27). This can be created by a paradigm to form a suitable model (28, 29).

Deductible procedures enable the transfer of theories to research propositions, focussing research on to aspects of prime concern within an appropriate structure (30).

5.4.3. Identifying the sample group.

The group is to be accessible, explicitly determined and unambiguous to reduce the influence of errors (31, 32).

Within this research the overall population incorporated those companies operating within the Standard Industrial Classification for construction within the selected research domain which, in accordance with Porter, requires that at least three home nations be compared. In this case: United Kingdom, France and Germany. These home nations were selected for certain reasons:

* The UK was incorporated as the home research nation.
* Comparable nations to the UK must be selected.
* Nations selected must be accessible in terms of data collection and information validity.

* The selected nations must be capable of undertaking work within the locations selected for assessment.

The requirements of the research direct that the sample should be contractors whose operations include international construction. Major contractors were approached from each home nation. The actual sample contained no contractors with a turnover less than £250Mio, while 15 of the 22 contractors had a turnover in excess of £1.3Mrd.

Total German turnover for sampled contractors whose average exports as a percentage of turnover was 25%, was some £6.8Mrd producing an average turnover of £1.13Mrd. Sampled French contractors, whose average export as a percentage of turnover was 35%, had a total turnover of some £13.8Mrd, representing an average of £2.3Mrd. The sampled UK contractors, who had an average export value as a percentage of turnover of 31%, had a total turnover of £18.4Mrd, an average of £1.84Mrd. These organisations were additionally assessed through an examination of their reaction to three specifically determined host locations.

Host locations were selected to fulfil certain criteria:

* They must be viable locations of opportunity for the home, internationalist, nations.
* They must offer progressive economic differentiation to enable various locational considerations to be exposed.
* The host locations must be accessible in terms of data collection and information validity.

Three nations were selected which fulfil these needs: Portugal, Spain and Italy. They offer progressive economic differentiation from Portugal to Spain to Italy, each is a potential location to the internationalist home nations and their position within the EC enables data availability.

5.4.4. Suitable method of data collection.

There are three main methods of gaining information which relate to the analysis (33, 34, 35, 36):

5.4.4.1. Ethnographic.

The main aspect of this method is observation of the subjects within a naturalistic, long term, cycle (37). The method is time consuming and inappropriate to this research analysis.

5.4.4.2. Survey.

Survey methods seek to enable assessment of the research domain within a general, standardised, pattern (38, 39). Survey methods may generally exist as either an interview structure or a simple, questionnaire, survey.

Interview methods include the standardised format, employing generally direct questioning and answers, or the exploratory method, which may act as a depth interview for seeking ideas and proposals. Exploratory interviews were generally conducted person to person within a structured form, which enhances the quality and comprehension of the data obtained, although this could be time consuming (40, 41).

Surveys by questionnaire generally enable a large number of respondents to be approached, often within a short space of time. However, question wording must be carefully judged to minimise potential inconsistencies through misunderstanding or bias (42). This may be, in-part, countered by enhancing confidence and anonymity of the respondents.

The survey types include (43):

1. One-shot designs in which the subject is approached only once from the general research population. This format may be either cross-sectional, where only pre-identified members of the general population group are targeted, or factorial designs where pre-identification of the sample sought is not used.

2. Time seriesed designs employ either of the methods used within the one-shot format, but the data is sought from

randomly selected members at determined time intervals. This seeks to reveal a general trend within the population.

3. Repeated contact design uses a format similar to the time series design but the members of the population questioned are the same ones in each case. This method enables determination of changes in attitudes and behaviours at successive time phases or before and after an event.

Survey, both by interview and questionnaire, notably through cross-sectional one shot methods and repeated contact design, forms the main method of primary data collection within this research project.

Interviews employed a structured form which served to ensure that all data was examined in an comparable form.

Questionnaires were employed to assimilate specific data from the sample group within a particular form.

The design of a questionnaire and interview procedure will incorporate certain aspects (45, 46, 47);

* Temporal coverage will relate to the collection of the data, some of which will be relevant only if contemporary.

* Controls on data responses and data flow together with verification methods will serve to enhance validity of the information attained.

* Population and sample group examined to accommodate and identify their particular characteristics.

* Sample taken from the population within a pre-analysis, to represent the objectives of the test hence enabling alterations to be undertaken if required.

* Data sought to meet the objectives of the survey.

* Methods of analysing the information to be objective and capable of producing appropriate results. This will relate to how the information was attained and in what format.

5.4.4.3. Experimental.

An experimental test is used to determine the cause and effect of a particular aspect under a related hypothesis within a controlled environment (48). This method is therefore inappropriate to this research.

5.4.5. Undertake a pilot study.

To determine if the needs of the research are likely to be achieved with the full survey a pilot test was employed. For this research, this was through select discussions and depth interviews. Alterations and negotiations were an integral aspect of this stage (49, 50).

It is important that conditions of the research and the guarantees available, particularly with regards to data confidentiality are clearly presented within the pre-test since this develops the context of the full survey (51).

5.4.6. Undertake fieldwork and collect responses.

Fieldwork methods and results collection is associated to the systems examined earlier (52, 53, 54).

The prime forms of empirical data collection were through interview, as noted, and questionnaire. The questionnaire was sent to major contractors who fulfilled the criteria of the research.

For the questionnaire, a covering letter was sent to the main contact within the organisation - generally either the head of the company or the member of staff concerned with international operations and/or strategic affairs. This reaffirmed the research being undertaken and introduced the questionnaire, which was enclosed (See Appendix: 2, 3, 4).

UK and German letters and questionnaires were presented in English, while the letter and questionnaire sent to French

companies was translated into French, since from experience French companies and individuals were not likely to respond to written English.

The empirical data sought by the questionnaire was in two distinct sections and is compared within a series of Tables, which are described below.

Part 1 related to the contractor's 'Company Factors' - those aspects which were of prime importance to domestic operations and characteristics of the home country. The questions asked within the questionnaire and their main configuration within the Porter 'national diamond' framework are:

Demand aspects;

* How important is a large domestic demand to your company?
* How important do you find a wide variation in market sectors?
* How important is the support and trading relations you have with your current clients?
* How important do you consider is the threat of competition in your home market from:
  Existing competitors?
  New market entrants?
* Do your clients generally offer work internationally? If Yes, How important is this as a benefit to your company's progress?. (This aspect will also relate to advanced Factor Conditions formation).

Factor Condition aspects:

* How important do you consider Research and Development is for your company?
* How important have been the influence of recent domestic economic developments to your company's progress? (How this associates to other aspects of the framework will depend on the nature of economic aspects given as examples).
* How suitable do you consider is the national supply of

management staff to construction.

* How suitable do you consider is the national supply of construction labour at these levels:
  - Specialist Skilled, ie specialist sub-contractors.
  - Skilled.
  - Semi-skilled.
  - Unskilled.
* Does the nature of your national currency offer your company an advantage within international trade?
* Has your company developed particular skills, demanded internationally, due to the national physical attributes ie. climatic condition, mountainous areas or geology.

Firm Strategy, Structure and Rivalry.

* How important is the need for additional regulations in the control of your home construction market?
* How important is your company's reputation in obtaining work from clients?
* How important is your national prestige for your company gaining work internationally?

Related and Supporting Industries.

* How important are home based consultants working internationally for your company gaining work?
* How suitable to your company is the general support of financial institutions?
* How suitable is project financing within your current domestic market?

Government.

* How important is the significance of your Government's domestic policy to your company's progress?
* How important is the significance of the policy of the EEC to your company's progress.

Chance.

* Have there been any recent chance events which have had a significant impact on the progress of your company?

Although the questions asked are segregated into their main area of influence, some information can be used in more than one section of the Porter framework. For example, favourable financial systems can be a Related and Supporting Industry characteristic in addition to being an aspect of Factor Conditions.

The responses for each of the home nations are summarised within Appendix 2, 3 and 4. This data is processed as described below to enable relative assessment. This data is shown within Tables 9.2, 9.3 and 9.4, respectively. This data was then amalgamated for relative assessment of national characteristics which appears within Table 9.5.

Tables 9.2, 9.3, 9.4 were constructed from the returned questionnaires employing responses generally in the form of answering within a range 1 (for very low importance or suitability) to 7 (for very high importance or suitability). The response to each question from that nation's contractors was added and divided by response number to produce an average result for that question. This information was then placed in order of importance, or suitability, which appears within the Tables, most highly rated first.

Only three questions could not be quantitatively assessed, but relied on: Yes, Some or No as a form of response. These answers were examined to express an overall trend, ie. Overall No or Overall Equal where the results averaged between Yes and No.

The configuration of considered aspects within each nation's Table was assessed.

This information was then relatively compered, as shown in Table 9.5. This Table was constructed to show how each home nation differed in its assessment of 'Country Factors'. Therefore, the information for the ranked distribution of results within Tables 9.2. 9.3, 9.4 was amalgamated and averaged to produce an overall average rank value for each 'Country Factor' question response. Rank values places internation assessment on an equal footing, hence the most important aspect (ranked 1) in one nation will compare to the most important aspect in another nation (similarly ranked 1). These overall average ranked values constitute the final column of Table 9.5.

Each home nation's deviation from this overall average value, as detailed within Tables 9.2, 9.3, 9.4, is shown in their respective column. This value is added or subtracted as shown from the overall value. A positive value representing a higher ranking and hence less importance while a negative value represents lower ranking and hence higher importance. This therefore allows each nations deviation from its competitors to be clearly seen, revealing trends.

Examples of the use of Table 9.5 include;

'Company Reputation' is the most important aspect for all three nations, having the highest overall ranking value of 1.0. Each home nation has a deviation of 0.0, hence each nation also ranks this aspect as 1.0.

'New Competition' has an average overall rank of 16.0, therefore overall not particularly important. But, the UK's column shows -8.0, corresponding to a national ranking of 8.0 (from 16.0 -8.0 = 8.0). Germany's column shows +3.0, corresponding to a national ranked value of 19.0 (from 16.0 +3.0 = 19.0), while France's column shows +5.0, corresponding to a national ranked value of 21 (from 16.0 +5.0 = 21.0). Therefore, the UK assessment of this element is much more

important than either Germany or France and is clearly exposed as such within Table 9.5.

Table 9.5 is also subject to non-parametric statistical analysis. The selected method for two-way analysis of variance by rank is the Friedman model which uses the M statistic (55, 56). This model is represented as:

$$M = \frac{12}{[nk(k+1)]} \left\{ (R)2 - 3n(k+1) \right.$$

Where M = Friedman statistic,

n = Number of rows,

k = Number of columns,

(R)2 = Square of sum of ranks for all columns.

This statistical model serves to demonstrate the difference, and the significance of such differences, of considered data. For example, from Table 9.5, general aspects influencing the market include;

	UK	Germany	France
Domestic Developments,	1	3	2
Government Policy,	1	3	2
EEC Policy,	1	2	3
Additional Regulations.	1	2	3
Sum of Rank Deviation:	4	10	10

Using the above Friedman model produces;

$$M = \frac{12}{12(3+1)} (16 + 100 + 100) - 12(3+1)$$

$$M = 6.0.$$

This is equal to P = 0.10. Hence although the hypothesis of no difference cannot be rejected, differences appear to exist.

Statistical analysis, as shown within Chapter 9, enable determination of characteristic differentiation between test nations, to which further examination can be directed. However, within this research, due to limitations of time, extensive statistical analysis was not undertaken.

The results of this first section of the empirical survey and the expressed deviations are then examined within the context of the Porter framework.

Part 2 of the questionnaire examined empirical analysis of Locations, the host nations.

This information was examined in two sections. The information was initially examined on the basis of the home nations results for each location, seeking to show differential assessment for each host location. The information was then examined inter-home nation to show how each home nation differentially considered host locations.

The first section, intra-home nation results are shown within Tables 9.7, 9.8, 9.9, respectively. These Tables were constructed in accordance with the procedure described for the formation of Table 9.5. However, since assessment is of the relative importance of host location's attributes compared to other host locations, the actual level of importance is used, not a ranked value which would not disclose such information.

Hence, questionnaire results, within the scale 1 to 7, for each host location are amalgamated and averaged. Then these average values for each host are all added and averaged to produce an overall average value for all host locations, for that home nation. Using the values for each host location the level of deviation from this overall value is entered into each host location's respective column.

In this case a positive value within the host nations column represents a higher importance while a negative value represents a lower level of importance. For example;

Within Table 9.7, 'Size of Market' has an overall mean of 4.4 as seen in the final column (the average of all three host locations) and is therefore of average importance. The values within the Spanish and Italian columns are both +0.8, representing actual values for Spain and Italy of 5.2 (from 4.4 +0.8 = 5.2). However, the value in Portugal's column is -1.7, representing an actual value of 2.7 (from 4.4 -1.7 = 2.7). Hence, the importance attached to the size of the Portuguese market is much less than the importance attached to the size of the other host location's market size.

These Tables therefore show inter-host location assessment revealing deviation and trends.

The second section of the examination of host locations assesses relative values between each home nation. This is shown within Table 9.10.

Table 9.10 was constructed in a similar form to Tables described above. The average final column values of Tables 9.7, 9.8 and 9.9 were amalgamated and averaged for each assessed element as used in the final column of Table 9.10. Then for each home nation, using their respective data within Tables 9.7, 9.8 or 9.9, the deviation from this overall value is shown. Again a positive value represents greater importance, while a negative value is lesser importance.

An example of this Tables application is,

'Client attitude to your firm' has an overall Mean of 5.2 within Table 9.10. The French column shows a value of +0.7 (representing 5.2 +0.7 = 5.9) while the UK column shows +0.6 (representing 5.2 +0.6 = 5.8). However, the German column has -1.4 (representing 5.2 -1.4 = 3.8). The German's therefore attach notably less importance to this aspect than the French and UK contractors.

This Table therefore shows home nation's deviation from competitors when considering internationalisation and allows trends to be exposed which are then analysed in greater detail.

5.4.7. Data processing and analysis.

From the general model and concept of the research, information analysis will take place which is then translated into structured observations thereby maximising the value of the research (57, 58, 59, 60).

The structure of research, related above, corresponds to the system of analysis undertaken within this research project.

5.5 Summary.

From a review of relevant theories and studies, a workable method of analysis is formulated, as described above. Its main components are; employing suitable theory as the basis of research, sampling data, (from selected sources which meet the criteria of assessment), to fulfil the aims and objectives of the research within a validated framework and to develop explanations through the analysis of research data.

The adapted Porter framework (61) is shown to be suitable for an analysis of international construction through the objectives and propositions noted within Chapter 1.

All home and host nations within this research are within the European Community. In order to assist verification of the results of the empirical research, a framework of secondary data will be created focussing on to the EC. This framework will include assessment of the overall nature of the EC, which is developed within Chapter 6.

Further, since the construction industry is the prime aspect of this research this will be similarly analysed at the EC level, to reveal trends and relate distinguishing aspects between each nation. This is presented within Chapter 7.

The home and host nations will also be individually examined through secondary research to expose characteristics and trends which can again be used to verify aspects exposed through the application of the adapted Porter model, while also enabling deviation to be identified. This is shown within Chapter 8.

This data will therefore be used to verify information and trends exposed through the empirical research from the Porter model, which is related within Chapters 9 and 10.

The research has progressive construction, developing theoretical applications in accordance with the analytical aims, assessed from an appropriate source of information. Hence, the development of the theory stems from both primary and secondary sources of information. Further, the analysis of the empirical research data, as examined within Chapter 9, is integrated with the developed framework of secondary data, as shown within Chapters 6, 7 and 8, which serves to justify and verify exposed information and trends. This will corroborate the research and produces a more robust framework of assessment.

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PART TWO.

COLLECTED DATA AND EMPIRICAL ANALYSIS.

CHAPTER SIX.

THE EUROPEAN COMMUNITY.

This Chapter will introduce the general geographic and socio-cultural environment of the research, the EC, which is the base for each of the home and host nations. This will identify characteristics, trends and patterns which will be used to assist justification and verification of information exposed through the application of the theoretical model to the empirical research.

6.1 Introduction.

Until 1945 the definition of Europe was purely geographic - an area west of the Atlantic, east of the Urals and north of the Mediterranean to the North Sea. The environment within this area ranges from Arctic tundra in the north, through Central European Plains to the warm Mediterranean coastal regions in the south.

The continent of Europe incorporated many dozens of nations within which, through time, common languages, history, cultures and values developed. The nations of the south, with predominantly old empires and ancient cultures became poor, while those nations of the north became richer as they developed from feudalism to an industrial culture. Despite the influence of neighbours and their close proximity, national development was typically insular, with wars and oppression of the weaker countries often occurring.

After the Second World War, in 1945 the conference of Yalta took place between Roosevelt, Churchill and Stalin as representatives of the major world nations. Europe was divided. Stalin received the middle and eastern nations yet within three years the sovereignty of these nations was lost, their control coming from Moscow and their borders forming the Iron Curtain.

The Western nations of Europe also went through a difficult time. As the threat of Communism became stronger, the extent of national social-cultural differences was diminished. Further, as the Western world became smaller, cooperation became stronger with the Treaty of Rome creating an appropriate, structured, economic framework in March 1957. This treaty established the European Economic Community (EEC) between Belgium, the Federal Republic of Germany, France, Italy, Luxembourg and the Netherlands. The long-term goal of this treaty was the union of the peoples' of Europe, but first a common market had to be established, where workers, goods and capital could circulate freely. Trade integration progressed and in 1968 the customs union came into effect, relating trade by the abolition of custom duties between the six members and enhancing the value added tax system introduced in the previous year (1).

In 1973, the Europe of Six became the Europe of Nine with the introduction of Denmark, Ireland (Eire) and the United Kingdom. Greece joined in 1981 and in 1986 Spain and Portugal both joined, forming a union of twelve. Today, several other nations have stated their desired intention to join the EEC, most notably Turkey and Sweden.

Throughout the near thirty-five year life of the EEC, joint activities were initiated within new sectors, agriculture, energy, regional development, monetary systems and units and finally in 1979, the European Parliament was elected for the first time by universal suffrage (2, 3).

6.2 The Nations of Europe.

Despite closer integration, the nations which compose the EEC have generally retained distinct characteristics (4,5,6,7,8).

Belgium, founded in the middle of the nineteenth century, has internal socio-cultural divisions based on the regional use

of the Flemmish and French language, each region comprising approximately half the nation, north and south respectively. This encourages conflict and dissent amongst the population.

The economy is in a fair condition although is over-exposed to the international environment, riding on higher investment expenditure, the progress of exports and the growth of private consumption. Investment is expected to decline due to wage level uncertainty, increases in inflation and interest rates. Due to the close economic integration between Belgium and Luxembourg and the latters small size, the two countries are often combined for the purposes of analysis.

Denmark's recession ceased in 1989 as Gross Domestic Product (GDP) turned positive due to fast growing exports, but economic recovery remains below that of the European average. Fiscal policy will be the controlling mechanism within a plan of Economic Reform, while monetary policy will be employed to keep short-term interest rates as low as possible and restrict the high wage rates demanded. However, the coalition Government is divided on foreign and economic issues and the North Atlantic Treaty Organisation (NATO) membership.

France is the largest country in the Community with a fairly even population distribution outside the major cities. The traditional centrality of control has been progressively dissipated into a more regional system. Infrastructure and communications are well developed. The current economic scene is balanced with a strict monetary policy acting between curbing inflation, enhancing the balance of trade position, maintaining parity of the French currency and that of Germany's, and opening the path to European economic union. Internal production has risen in recent years with exports and investment being most dynamic. Employment figures are improving although the overall unemployment rate remains comparatively high.

Greece has a culture and socio-economic attitude which is distinct from that of Western Europe, encouraged by geographic location, recent military rule and a long standing feud with its eastern neighbour, Turkey. The progressive integration of Greece into the EEC is hindered by relatively poor communications and infrastructure. However, this appears to offer investment opportunities in the process of redevelopment.

Germany has a long standing cultural tradition, regionally distinguished by decentralised control and administration. However, its national existence dates only from the last century, formed by mergers and wars. Partitioning took place following the last war forcing a formation of new markets for products. Only recently has the country reintegrated. The former West Germany is highly developed, serving a large, wealthy, commercial and industrial base with favourable exports and investment expenditure. This compares with the relatively poor economic condition of the former East Germany.

Ireland is gradually benefiting from an increasing level of private and public investment which is assisted by an increased availability of European Community (EC) funding, primarily through the Structural Fund. The general economy is improving with a focus on reducing the national debt and restricting public borrowing, although interest rates are generally unstable. A reduction in the levels of unemployment is also sought.

Italy has existed as a nation for just over one hundred years. Considerable contrast of culture and ethnic origin exists between the rich north, where most infrastructure and development is centred, and the poorer south. Decentralised control is strongly instilled and influential in the administration of regions, which serves to accentuate social differences. Italy has made favourable economic growth but inflation and public sector borrowing requirements remain difficulties. The borrowing requirements have incurred steps to control expenditure, reduce public sector undertakings and

increase indirect taxation. A privatisation programme has also sought to reduce the sprawling public administration.

The Netherlands has a good economic condition although progressive general slow down is expected. This condition has created capacity shortfalls in certain market sectors, leading to a need for further investment. Exports, innovation and market liquidity are prime driving forces within the economy, encouraged by the current low interest rates. However, unemployment remains a concern, principally due to a core group of low skilled labour and higher than EC average population growth.

Spain and Portugal have only recently entered mainstream European affairs after a long period of economic decline and more recent military dictatorship.

Spain's economic growth cycle began in the middle of the 1980's, and has continued principally due to Government action. Inflation rates, foreign trade imbalance, credit shortage, labour inflexibility and limited skills and technology training remain problem areas. Financial policy, introduced to cope with these aspects, has created higher inflation affecting investment expenditure and the related infrastructure development. Nationalism and regionalism are particular characteristic of Spain with most economic activity concentrated around Madrid, Catalonia, the Basque region and the coastal zone. Considerable scope remains for infrastructure development. Spain forms the second largest nation in the EEC.

Mainland Spain retains strong commercial and institutional links with the Spanish speaking world, principally within Latin America, despite its austere colonial past.

Portugal has experienced significant dynamic economic development in recent times, encouraging the application of additional government controls to assist maintenance of high growth rates and to control inflation. Investment policy is aimed at maintaining national modernisation programmes and

expanding investment expenditure. However, more difficult times are expected in the future.

The United Kingdom is unique within Europe in terms of the historical stability of its society, political structure and administration, encouraged by conditions of limited external pressure nor invasion in almost one thousand years.

The United Kingdom is now in recession, after a period of hectic growth in the late 1980's, as interest rates depress consumer spending and investment. Interest rates are now the chief economic priority, with the current Government pursuing tight fiscal and monetary policy throughout the foreseeable future. Exports however, have failed to benefit from this condition. Business confidence has declined, corresponding to an increase in the number of insolvencies.

Comparison of EEC nations and their companies' performance is complicated by the differences in accounting standards, together with the degree of information available (9, 10, 11, 12). The nations also differ in their legal systems with only the UK and Eire using statute law. The remaining community members employ codified legislation which is based on justice and morality, which is typically slow to change and adapt (13).

Despite the progress of community integration, various social, economic and cultural boundaries remained to be crossed and in February 1986, the Twelve member nations signed the Single European Act (SEA) to enable development of a fully unified market without internal borders, centring on the '1992' deadline, although in reality this is the '1993' deadline since its initiation commences at midnight of the last day of 1992. The implementation of this major project is currently under way, revitalising the process of building a true Economic Community (14, 15). The aspects of '1992' are examined later.

6.3 General Socio-Economic Structure of the EEC.

6.3.1 Economic Indicators.

Expressed in ECU's (European Currency Unit), community GDP amounted to ECU 3721.2Mrd. Table 6.1, overleaf, shows the significance of the four main economies: Germany, France, Italy and the United Kingdom, with Spain, Belgium and the Netherlands forming an intermediate band of economic size. Other nations are less significant in magnitude of GDP.

GDP increases from 1982 to 1987, reflect fairly healthy economic progress. However, as previously noted, recent progress is more significant to the economic condition of certain nations.

The standard of purchasing power reflects national wealth and economic maturity. While many nations are seen to have similar, high, values built on a manufacturing or services infrastructure base, those nations without such foundations have, as yet, failed to achieve such wealth. These lie principally in the south of the Community.

The national trade balance demonstrates that most members, with three exceptions, are nett importers, though this may be based on intra-community activity. Importing generally accounts for a deficit in production resources and is stimulated by the increasing specialisation of labour, in addition to reflecting a loss of comparative international advantage.

The discount rate is principally affected by certain aspects, including; the possibility of illiquidity, the possibility of default and the inflation rate. Within a national economy the combination of these aspects creates the level of the discount rate. The data reveals a general trend of increasing economic stability correlating to a decreasing discount rate.

The consumer prices index, based from 1980 to 1987, shows that the value of increase is greatest amongst nations undergoing significant economic development, and is least amongst those nations already at a relatively high level of economic maturity.

Table. 6.1.

Member States: Economic Indicators.

Nation:	GDP#.Cur Mrd ECU. 1987	GDP.pa Growth. 1982-87	GDP. PPS.* (thou)	Trade Bal Mio.ECU. 1987	Discount Rate. 1987	Consumer Price In 1980/87
Belgium	120.4	1.5	14.7	- 653	7.00	144.5
Denmark	7.9	2.7	16.6	- 183	7.00	157.8
France	764.1	1.6	15.9	- 12581	9.50	167.3
Germany(W)	969.5	2.1	16.6	+ 57044	2.50	121.0
Greece	41.1	1.4	7.9	- 5603	20.50	366.1
Ireland	25.5	1.8	9.4	+ 2027	8.35	191.0
Italy	659.2	2.6	15.2	- 7454	12.00	211.0
Luxembourg	5.2	4.0	18.3	Belgium	Belgium	142.7
Netherland	184.9	2.1	15.3	+ 1100	3.75	122.5
Portugal	31.9	2.1	7.8	- 3697	14.50	347.2
Spain	251.3	2.9	10.8	- 8734	14.02	201.9
UK	580.1	3.2	15.4	- 20858	8.39	152.4
EURO 12.	3721.2	2.3	14.6	+ 777	---	164.3

Key:

- Gross Domestic Product. * - Purchasing Power Standard.
Mrd - 1000 Million. Mio - Million. pa - per annum.
ECU - European Currency Unit. EURO 12 - Total of EC members.

Sources: Eurostat. 'Basic Statistics of the Community'(16).
'Europe in Figures'. ECSC-EEC-EAEC (17).

6.3.2 Geo-Social Indicators.

Table. 6.2.

Member States. Geo-Social Indicators.

Nation:	Area. sq.km. 1000	Popu- lation 1Mio.	Density sq.km.	Birth/Death %Change. 1985/2000.	Working Pop' %.	Unemploy ment. %.
Belgium	30.5	9.8	324	- 1.9	41.9	11.6
Denmark	43.1	5.1	119	0.0	55.9	5.9
France	549.1	55.4	101	+ 4.9	42.3	10.6
Germany(W)	248.7	61.1	246	- 3.0	45.2	6.4
Germany(E)	106.5	16.9	159	-	51.9	9.2
Greece	132.0	9.9	76	+ 5.0	38.9	7.9
Ireland	70.3	3.5	50	+16.5	36.6	18.0
Italy	301.3	57.2	190	- 0.2	40.8	11.0
Luxembourg	2.6	0.4	143	+ 1.9	42.6	2.7
Netherland	41.8	14.6	351	+ 5.0	39.6	10.0
Portugal	92.4	10.2	111	+ 9.7	44.5	6.8
Spain	504.8	38.7	77	+ 5.4	36.9	7.9
UK	244.1	56.8	233	+ 1.9	48.4	10.6
EURO 12.#	2260.7	322.8	143	+ 4.2*	43.0	10.6

Key:

EURO 12 - Total of EC members. Mio - Million.

- EURO 12. excludes integration of GDR (East Germany).

* - 1983 data.

Note: Germany (E, East) relates to March 1991. Other data relates to 1987.

Sources:

Eurostat. 'Basic Statistics of the Community'. 1989 (Ibidem).

'Europe in Figures'. ECSC-EEC-EAEC. 1989 (Ibidem).

The geo-social figures, detailed in Table 6.2, relate to national population distributions.

The population trend projected between 1985 and 2000, shows that Germany (West), Italy and Belgium are expected to suffer a decline in population. The UK, along with Luxembourg and Denmark offer a broadly static projection. The regions of greatest population growth, in addition to France and the Netherlands are those of least economic development.

However, contrary to the trend projected up to the year 2000, the overall population of the EEC is expected to decline over the next forty years. Moreover, the percentage of the population over the age of 65 will increasing, creating particular social and economic demand requirements (18).

6.4 The 1987 Single European Act.

The enhanced socio-economic integration of Europe will serve to assist the development of an internal market and reduce the costs of fragmentation, determined by Cecchini in 'Research on the Cost of Non-Europe' as approximately ECU 216Mrd (19, 20). Cecchini demonstrated a lack of European unity and the report has served to provided impetus for increased strategic competition amongst nations (21, 22).

The main barriers to European integration are seen as (23):

1. Technical standards and regulations.
2. Administrative barriers.
3. Frontier formalities.
4. Freight transport regulations.
5. Value added tax differentials.
6. Capital market controls.
7. Government procurement restrictions.
8. Implementation of Community law.

The Single European Act (SEA) legislation is based on the 'Completion of the Internal Market' White Paper, published in June 1985 (24). This programme was endorsed by the heads of Government in Milian in June 1985 and later reinforced by the SEA, which was finalised in January 1986. This comprehensive document determines the regulations required to complete the internal market, together with the deadline; midnight on the 31st December 1992.

The completion of the SEA requires considerable legislation; 279 individual measures (25). It was agreed by the EC that some two-thirds of such legislation may be adopted by qualified majority to speed the adoption procedure. To further ease the SEA process, the 'cooperation procedure' was introduced in which the Council of the EC adopts a common position which may then be accepted by the EC Parliament.

The projected value of the Single European Market programme, the result of the SEA, is demonstrated below in Table 6.3. In addition to these figures, some 1.8Mio jobs are expected to be created and consumer prices to decline by 6% (26).

Table. 6.3. Economics of the Single European Market.

	ECU. Mrd.	% GDP (EUR12)
Step 1: Gains from the removal of physical barriers.	8-9	0.2-0.3
Step 2: Gains from the removal of barriers affecting production.	57-71	2.0-2.4
Step 3: Gains from economies of scale.	61	2.1
Step 4: Intensified competition.	46	1.6
Overall: EURO12 (1988 values):	174-258	4.3-6.4
Average expected gain:	216	5.3

Source: '1992, The European Challenge'. P. Cecchini. 1988.

The legislation required for the SEA divides into three prime domains, related to the nature of the barriers which they create: physical, technical and fiscal (27, 28, 29, 30).

6.4.1. Physical Barriers:

This sector of legislation principally focuses on the enhanced freedom to move throughout the member states, resulting in quicker and cheaper distribution and transport. The introduction of the Single Administrative Document (SAD) has aided this process by replacing the previous numerous documents required. The abolition of frontier posts may be the ultimate aim, but to safeguard members against non-EC goods and undesirable products, certain provisions of internal barriers will remain.

6.4.2. Technical Barriers:

This sector accounts for many of the existing 'non-tariff' barriers and may be divided into certain constituents:

a. Technical Standards. The cost of trade is increased due to variance in product standards between members. Because it was deemed that complete product integration would be impractical, the White Paper formed a new approach in which mutual recognition of standards would be sought, providing these do not compromise essential health and safety aspects, initiated by each member state (31, 32). The approach also seeks to relate the essential technical product requirements, issued as Directives.

b. Services. The SEA seeks to increase competition and trade liberalisation, enhancing choice and efficiency particularly amongst financial and communications provision.

c. Public Procurement. Public supply and public works comprise a significant proportion of expenditure within the EC.

The SEA aims to ease access to public sector contracts and hence, ideally enhance sector efficiency by fairer trade.

This section, due to its significance to construction, is assessed in greater detail later.

d. Industrial cooperation. This section will relate the trading integration of companies and partnership establishment. Further, EC integration of takeover regulations and mergers procedures are being enacted.

e. Free movement of professionals. A limited range of certain professions may already operate partially or totally throughout the EC based on their original, member state, qualification. This section intends to extend this capacity to all designated professions.

f. Industrial and Intellectual Property. Trade marks and patent copyright association form the focus of this section.

6.4.3. Fiscal Barriers:

The SEA is focussing on integration of Value Added Tax and excise duties in addition to action on corporation tax to reduce trade differentials between members. Such differences currently encourages deflection of consumption and revenue to countries with lower tax levels (33, 34).

Much of the SEA programme has already met with acceptance. However, it is generally recognised that the market's overall integration will remain limited due to the influence of nationalism and existing operational cultural cooperation (35).

6.5 The Internal Market and Construction.

The construction industry is generally expected to benefit from the implementation of the internal market programme (36). There are several Directives and areas of legislation which are important to the construction industry, these are:

6.5.1 Directives.

6.5.1.1 Construction Products Directive.

The Directive seeks products to be fit for their intended purpose and hence marketable throughout the community, although this is only applicable when the product is intended for permanent inclusion. The recent UK Building Act closely follows this condition, focussing on performance based attributes of construction products. To achieve the Directive's aim, 'Essential Requirements' exist, incorporating (37):

1. Mechanical Resistance and Stability.
2. Safety in case of fire.
3. Hygiene, Health and the Environment.
4. Protection against noise.
5. Safety in use.
6. Energy, Economy and Heat Retention.

Products may achieve performance compliance principally through meeting the requirements of the 'Harmonised European Standards', though reasonable member state regulations must still be complied with. The intermediate 'European Technical Approval' may be used by product manufactures until the formal 'Standard' is established and there-after awarded. However, in cases where no 'Standard' is expected to be agreed or determined, 'Recognised National Technical Approval' may be used, though the adoption of this procedure is to be considered exceptional.

The Construction Products Directive should offer certain advantages to construction contractors and product manufactures in Europe. These include easier formulation of standards and specification detailing, an enhanced choice of products due to market integration and a reduction in the cost of materials, principally related to economies of production. This condition should enhance the conditions of trade for construction materials and establish a more integrated market (38).

6.5.1.2 Product Liability.

The Directive, contained within the 1988 Consumer Protection Act, seeks to impose a specific duty on to producers and supplies of products which cause damage. Provision for defences of reasonable care exist but the Act should serve to enhance product application and design.

6.5.1.3 Qualifications: Mutual Recognition.

The Directive will serve to ease professional recognition by the provision of a determined learning scheme, based on mutual confidence and acceptance amongst member states (39).

6.5.1.4 Town and Country Planning.

Assessment of Environmental Effects.

Certain projects, while at their planning stage, are now required to determine and notify the authorities of their eventual likely environmental impact. Projects are assessed by size, location and the nature of construction.

The breadth of legislation emanating from the EC is increasing and typically becoming more precise in its application.

6.5.2 Public Procurement within the EC.

The overall public procurement market in the EC is significant, with construction accounting for a sizable proportion, generally distributed relative to national economic strength. However, public procurement is notably susceptible to political and nationalistic pressures which may disrupt fair trade. Particular problems which are to be countered include (40):

1. Failure to advise contracts in the EC Official Journal.
2. Restricted form of tender and negotiations.
3. Discriminatory selection procedures, both at invitation and award stage.
4. Contract fragmentation to avoid notification threshold.
5. Insufficient time allowed for submissions.

To accommodate these characteristics certain controls and regulations were implemented to encourage fairness and market awareness (41).

Main Directives relevant to public procurement incorporate:

1. Supplies.
2. Works.
3. Construction Products.
4. Services.
5. Excluded Sectors.
6. Professional Qualifications.
7. Compliance.

Increased opportunities for contractors competing for public works and the efficiency of operations undertaken principally relate to; effective information distribution, integration of specifications and reasonable time allowance in which to generate an appropriate bid. These aspects are incorporated within the elements of the public procurement Directives and associated legislation and controls.

6.5.3 European Structural Funds.

The European Structural Funds serve as the main method of distributing aid and support to member states from central funds, either for specific projects or as part of wider regeneration programmes.

The structural fund has three main components (42):

1. The European Regional Development Fund (ERDF).
2. The Social Fund.
3. The Agricultural Guidance Fund.

The ERDF is the most relevant component of the fund to the construction industry, relating to a programme of works seeking to reduce the communities regional imbalances. This focuses spending to the relatively poorer, generally southern, areas of the EC, in addition to Ireland.

Portugal, in addition to the ERDF, receives specific support under the Portugese Industrial Development Programme.

The Integrated Mediterranean Programme focuses on the Mediterranean regions of France, Greece and Italy.

These programmes seek to develop, support and enhance industrial and commercial infrastructure. Such funding offers a significant market opportunity when focussed within the prime development regions (43).

This Chapter has introduced the geographic and socio-cultural characteristics of EC members and identified particular attributes. Further, the general policies of the EC were considered for their relevance to construction and contracting opportunities.

A detailed assessment of the EC Construction industry will show further characteristic trends and consider the grounding for competitive differentiation. This is undertaken within Chapter 7.

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CHAPTER SEVEN.

CONSTRUCTION IN EUROPE.

This Chapter will examine the characteristics and distribution of the European construction industry to expose trends and patterns which will be relevant in determining aspects of competitive advantage.

7.1 The European Construction Market.

The European construction industry has an annual worth of some £275Mrd, representing approximately 25% of the total global construction market. This equates to approximately 11% of the total EC Gross Domestic Product (GDP) (1).

Germany, France, Italy and the United Kingdom dominate the European construction industry in terms of the scale of their markets. However, the Spanish market has developed rapidly since 1987 and appears set to join these four, creating five main markets in Europe (2).

Table 7.1 demonstrates the scale and distribution of construction throughout Europe.

Table. 7.1 Construction Output Within the EC.

Nation:	£ Mrd.	% of Total.	Nation:	£ Mrd.	% of Total.
Germany(West).	78.2	28	Belgium.	10.3	3
France.	46.8	17	Denmark.	8.0	3
Italy.	46.2	17	Greece.	3	1
UK.	40.6	12	Portugal.	2	1
Spain.	23.7	9	Ireland.	2	1
Netherlands.	13.9	5	Luxembourg.	1	-

Sources: Euro-Construct. June 1989 (3).
Touche Ross:'Single European Market Report' (4).

European construction has the following sector distribution.

Table. 7.2 European Construction Sectors.

Market Sector:	%	Market Sector:	%
Repair and maintenance:	34%.	Private non-residential:	17%.
Residential:	24%.	Public non-residential:	5%.
Civil Engineering:	20%.		

Source: Eurostat. 1989.

7.1.1 Capital Spending on New Construction: (CSNC).

Capital Spending on New Construction (CSNC) reflects the national significance of new construction. Although this data does not incorporate all industry sectors, it notably excludes repair and maintenance - a significant market sector, it does generally correlate to the previously noted distribution of construction output within the EC.

Table. 7.3 Capital Spending on New Construction.

Nation:	CSNC: EC		Construction Values:		
	% of GDP	%: Community	Employee	Inhabitant	Km2
Germany(West).	11.3	27.4	50,300	1,521	373
France.	9.5	19.3	43,000	1,187	191
Italy.	11.6	19.1	40,100	1,133	215
UK.	7.8	13.6	30,900	546	189
Spain.	11.7	7.5	33,700	657	50
Netherlands.	9.7	4.8	48,700	1,100	383
Belgium	8.7	2.7	43,500	919	294
Denmark	10.8	2.5	50,600	1,627	193
Greece	10.8	1.4	13,100	475	36
Portugal	11.9	0.9	8,100	314	35
Ireland	8.3	0.6	23,800	571	29
Luxembourg	12.8	0.2	37,500	1,500	200
EURO 12	10.1	100.0	38,500	1,052	150

Source: Eurostat. 1985 (5, 6).

From the data, CSNC as a percentage of nation's GDP does not vary greatly. Nations undertaking proportionally more new construction such as Portugal and Spain, rather than refurbishment, have higher CSNC percentage values.

Economic strength is also represented by CSNC distribution as a percentage of total Community expenditure, confirming the significance of the German, French, Italian and the UK markets.

Construction production incorporates output value per employee. Germany, Denmark and the Netherlands from this data are the most productive nations, related to management efficiency, labour skills, technology and investment. Italy, France, Belgium and Luxembourg have similar productivity, but it is notable that the UK value is some 20% lower, relating more to the value achieved by Spain. Greece and Portugal appear to be the least productive. However, variations in national factors of labour and material costs will influence comparisons.

These national factors also influence construction value per inhabitant. It is observed that the southern countries of Portugal, Greece, Spain have low levels of expenditure, while this level generally increases northwards across continental Europe. However, the UK does not follow this increasing northwards CSNC trend.

The distribution of construction activity, relative to geographic size, demonstrates the relative intensity achieved within the more mature nations of the north, compared to the south. Larger countries however, such as Spain and France, typically record low values relative to their geographic areas due to their population dispersion.

7.1.2 European Construction Market Development.

The development of the European construction industry over recent years has more than recovered the decline experienced during the first half of the 1980's. In 1989 growth was recorded in all sectors of the industry as represented in Table 7.4. The most significant increase was in private non-residential buildings, while civil engineering was also increased. However, rehabilitation and non-residential building recorded below average increases, only house-building remained broadly unchanged.

However, projected data for 1990 demonstrate a decline in the progress of European construction activity, with only the exception of residential refurbishment (7, 8, 9, 10).

Table 7.4 Sector Growth within the EC.

Percentage increase on the previous year for industry sectors.

Market	Year.							
Sector:	1983	1984	1985	1986	1987	1988	1989.a	1990.b
Building	0.2	-1.3	-1.6	2.9	3.5	5.1	4.4	2.0
1HouseBld:	1.7	-1.7	-4.1	1.1	1.5	3.6	1.7	1.5
1.1 New	3.5	-3.7	-10.1	-2.0	-0.3	3.7	0.1	-0.3
1.2 Refurb	0.4	2.4	3.6	5.3	4.6	3.3	2.0	2.6
2Non Res'd	-2.2	-0.6	2.2	5.2	5.9	6.8	8.6	2.8
2.1Private	-1.5	0.5	3.8	6.4	7.3	9.1	10.3	2.7
2.2 Public	-3.1	-2.8	-1.7	2.2	2.2	0.9	4.3	3.6
Civil Eng'	-2.4	-2.7	-0.7	3.3	1.9	8.1	8.2	5.8
Construction	-0.5	-1.6	-1.4	3.1	3.2	5.7	5.2	2.2*

Key: a. - Estimate. b. Forecast. *. Actual data,(from 2.9%).
Source: European Construction Industry Federation (11).

Table 7.5, below, shows the development and progress of the construction sector amongst each member state.

Spain, Portugal and Ireland show significant improvements in market conditions in the latter part of the decade, assisted by the provision of external aid and support. All nations, with the exception of Denmark, achieved market growth in 1989. However, the forecast data for 1990, as within Table 7.4, expresses a general slow down of the construction industry's overall growth trend. Moreover, an actual decline in output is apparent within the UK and Denmark with stagnation affecting the Netherlands.

Table. 7.5 Member States: Construction Progress.

Member	Percentage Variation Compared to Previous Year.							
Nation:	1983	1984	1985	1986	1987	1988	1989.a	1990.b
Germany	0.9	0.8	-6.5	2.7	-0.1	4.2	4.8	5.0
Italy	1.5	-1.0	-0.5	1.1	-1.1	1.2	3.6	2.4
UK	4.6	3.1	1.1	3.3	7.8	7.3	3.9	-3.6
France	-4.6	-4.8	-0.1	2.4	3.6	5.8	3.9	3.4
Spain	-2.5	-5.5	0.5	5.0	7.0	10.0	13.0	10.0
Netherlands	-2.4	4.3	2.0	6.1	1.8	12.1	3.1	0.0
Belgium	-6.4	-6.1	-0.8	3.1	3.3	15.0	9.2	3.1
Portugal	-2.8	-17.9	-5.7	7.4	19.0	12.0	10.0	8.0
Denmark	0.7	7.2	6.8	15.6	-1.7	-5.3	-9.6	-6.3
Ireland	-12.3	-8.9	-6.1	-4.1	-6.7	-5.1	9.2	9.3

Key: a. - Estimate. b.- Forecast. * - Updated Data.(From 2.9%).
Source: European Construction Industry Federation (12).
Data from Greece is not included.

7.2 Construction: National Structures.

7.2.1 Introduction.

There are many aspects which influence the condition of the European construction industry, including (13):

1. Role of Government.
2. Contractor Operations.
3. Regulations.
4. Design Team System and Operation.
5. State of Capital Markets.
6. Taxation.
7. Client Formation.

These elements are the product of national characteristics, which can be used to broadly segregate Europe into three prime divisions: Northern European, French and Mediterranean (14).

The Northern European system is designated as incorporating the UK, Ireland, Denmark, Germany and the Netherlands. Within these nations, the industry is well regulated within formal contractual procedures. High standards are generally required in both technology and quality of the finished product.

The French system, incorporates France, Belgium and Luxembourg. Construction standards are typically more varied and flexible than within the Northern system, according to the needs of the client and the geographic region. However, contractual obligations are highly regulated and include many formal procedures. The construction industry is notably politically orientated, which generally serves as a non-tariff barrier to entry for non-national firms.

The Mediterranean system applies to Spain, Portugal, Italy and Greece. The system is characterised by a high degree of bureaucracy and political integration, particularly on a regional level. Contract procedures and construction quality are variable to the need of the contract and with the exception of Northern Italy, are generally below average EC standards. The system is relatively less efficient in contract control and construction procurement compared to most EC members.

7.2.2 National Construction Markets in Europe.

The features of the construction industry within each member state represents structural variations (15, 16, 17, 18, 19).

Nations are assessed broadly in accordance within the three divisions, previously identified.

The German construction market is the largest in Europe and has historically accounted for a major proportion of domestic macro-economic growth. This trend is expected to continue following reunification. Prospects for construction opportunities within the former German Democratic Republic (GDR) region are important (20, 21), with a sizable boost to the construction industry expected relating to rebuilding and regeneration programmes, backed by investment from the former Federal Republic of Germany region. Integration programmes between the two regions are now well advanced.

Beyond infrastructure development, house-building is also important, with a projected increase in housing starts from 155,000 currently to 170,000 in 1992 (22).

The United Kingdom construction industry is currently in recession, initiated by high interest rates and a reaction to over supply in the latter half of the 1980's. Construction output is depressed in all market sectors, though most notably within new construction. Further, even once recovery is initiated, many market sectors have a large supply of available stock.

The Netherlands is currently an uncertain construction market, due principally to its over-dependence on interest rate conditions, the lack of available skilled labour and increasing construction costs (23, 24). The new housing sector has suffered most under these conditions.

Denmark has experienced an economic recession which effectively ceased in 1989, and has since initiated a modest

process of regeneration. However, activity within the construction industry is expected to decline throughout 1990, with better prospects only there-after.

Ireland is undergoing a general economic recovery which has provided the basis for enhanced private investment. The construction market increased 9% in 1989 after a period of poor performance, with a similar trend expected in 1990. EC Structural Funds are assisting the public sector contributions towards a developing market, augmented by private funds.

The French construction market is experiencing a slow down, principally initiated by a decline in public investment (25). New housing is expected to decline from the 330,000 completions achieved in 1989. However, the decline within the civil engineering sector will be restricted through an on-going infrastructure creation programme which incorporates various major projects. The commercial, private non-residential, sector despite some large projects such as the EuroDisney scheme in Paris is expected to see a slight decline in demand in accordance with general market trends.

The Belgium construction market is currently generally favourable due to increasing private demand with new housing the main growth sector. The Belgium market is subject to considerable French attention, with several mergers and acquisitions undertaken (26). The civil engineering sector has an over-supply of construction capacity following central and regional level cuts in investment expenditure.

Luxembourg is often incorporated within Belgium's commercial and economic data through a formal integration procedure. Although the condition of the construction market within Luxembourg is distinct from Belgium, this difference is not significant and the value of separate assessment is diminished due to the relatively tiny scale of Luxembourg's market.

The Italian construction market has recently experienced the most significant advancement since 1974. This progress is principally due to the upward trend in private non-residential construction, both commercial and industrial. Private residential construction has also undergone regeneration, representing the end of a five year decline. The country is considered to be at the beginning of a buoyant construction cycle (27). Prime growth sectors include environmental projects and water supply schemes, commercial work especially within industrial provision and leisure developments. Private housing is a further significant market with starts expected to reach 293,000 throughout 1990, from 270,000 in 1989.

The Spanish construction industry has grown significantly since 1986, following integration into the EC, with growth set to continue although at a slower rate (28). Civil engineering is a highly significant market centring on public and private infrastructure development; railways, water and roads. However, recent inflationary pressure, rising land costs and tighter credit controls have restricted housing developments (29).

Portugal has experienced rapid progress in construction activity since EC integration in 1986. This is essentially due to the activities within the public and private non-residential development sectors. The residential sector is however restricted in its progress due to the impact of loan restrictions.

Construction in Greece is hindered by industry fragmentation and regionally variable regulatory and accounting standards. While these conditions influence the market, they also disrupt information analysis and limit the assessment of the industry's condition. However, the scale of opportunities available within Greece are significant, although project funding is not always available despite the opportunities for undertaking EC Structural Fund projects.

7.3 Construction: Corporate Structures.

The European construction industry contains a variety of corporate structural distributions, as represented within Table 7.6, which identify the level of national market fragmentation.

Table 7.6 Member States: Corporate Distribution.

Member Nation:	Workforce Category:	No of Firms:	Employees Total 1000.	Employees %	Turnover Total 1000.	Turnover %	Turnover/ Employee 1000 ECU
Belgium	20- 99	1,012	40.2	48.1	1,862	40.9	46.3
	100-499	178	33.1	39.6	1,954	42.9	59.1
	500+	13	10.3	12.3	736	16.2	71.3
	Overall	1,203	83.6	100.0	4,553	100.0	54.3
Germany	20- 99	15,020	562.3	54.3	22,394	47.7	39.8
	100-499	1,581	288.1	27.8	13,356	28.5	46.4
	500+	105	185.2	17.9	11,174	23.8	28.5
	Overall	16,706	1,035.5	100.0	46,924	100.0	45.3
France	20- 99	9,263	358.2	43.8	14,499	38.0	40.5
	100-499	1,062	198.6	24.3	9,672	25.4	48.7
	500+	154	260.9	31.9	13,968	36.6	53.5
	Overall	10,509	817.8	100.0	38,139	100.0	46.6
Italy	20- 99	6,044	192.9	56.5	10,047	51.8	52.1
	100-499	507	95.3	27.9	5,958	30.7	62.5
	500+	57	53.1	15.6	3,393	17.5	63.8
	Overall	6,608	341.2	100.0	19,398	100.0	56.8
UK	20- 99	5,771	225.3	30.9	11,123	28.2	49.4
	100-499	1,082	215.1	29.5	11,918	30.2	55.4
	500+	242	289.4	39.6	16,456	41.6	56.8
	Overall	7,095	729.8	100.0	39,498	100.0	54.1

Source: Eurostat. 1985 (30).

Therefore, Italy has only 57 construction companies with more than 500 employees compared to 105 such companies within Germany, 154 in France and 242 within the UK. Further, the actual size of the large companies varies, being greater within France than within the UK for example.

The nation's industry formation is associated to the percentage of national construction's turnover represented by companies with 20 or more employees. This is represented as:

Italy and Belgium: 17%. Germany: 24%.

France: 37%. UK: 42%.

Hence, only 17% of the overall national output of construction within Belgium or Italy stems from companies with 20 or more employees. Within the UK however, 42% of national construction output stems from companies with 20 or more employees.

The French and the UK construction industries may therefore be identified as being less fragmented than the markets of Belgium, Italy or Germany.

However, construction overall is a fragmented industry with no more than 4% of any one members market being accounted for by the activities of one company, small firms are highly significant to the construction activity of member states.

7.3.1 European Contractors.

From Table 7.7, it is apparent that turnover is greatest amongst the main contractors of France, Germany and the United Kingdom, which is further emphasised when expressed as a percentage of domestic market sales, particularly within French and UK companies. The largest German firms account for only a relatively modest proportion of domestic turnover (31, 32), as seen in Table 7.8.

Table 7.7. Nation's Major Contractors.

Nation:	Total (£Mrd).Revenue of 5 Largest Contractors.	Sales as % of the Domestic Market.
France.	9.0	23.
Netherlands.	2.2	23.
United Kingdom.	6.0	19.
Spain.	2.1	15.
Germany.	6.5	9.
Italy.	1.5	5.
Belgium.	0.4	5.

Source: 'Europe 1992' (33).

Table 7.8 Major Contractor's Domestic Market Share.

United Kingdom:		France:	
Company.	% Market Share.	Company.	% Market Share.
Trafalgar House.	3.3	Bouygues.	3.3
AMEC.	3.2	SGE.	3.3
Balfour Beatty.	2.6	SAE.	2.0
John Laing.	1.9	GTM Entrepose.	1.8
Tarmac.	1.8	Spie Batignolles.	1.7
Wimpey.	1.7	Fougerolle.	1.2
Taylor Woodrow.	1.6	Dumez.	0.8

Italy:		Germany:	
Company.	% Market Share.	Company.	% Market Share.
Cogefarimpresit.	0.6	Holzmann.	1.2
Italstrade.	0.5	Hochtief.	1.1
Lodigiani.	0.3	Bilfinger.	0.6
Condotte.	0.3	Strabag.	0.6
Caltagirone.	0.2	Dywidag.	0.6
Astaldi.	0.2	WTB.	0.5

Source: Swiss Bank Corporation. 1990 (34).

7.4. Summary.

The European construction industry has an annual turnover worth some £275Mrd, representing approximately 25% of the total global market. The largest markets are within Germany, Italy, France and the UK.

Following general market decline during the first half of the 1980's, many nations experienced growth. This expansion is particularly notable within Spain and Portugal. However, the overall growth trend is now slowing and within certain nations is actually declining.

The construction industry is highly fragmented with no one company undertaking more than 4% of its domestic market. Italian construction is notably fragmented, while the UK and French industries are less so. French companies also represent the largest firms within the European Top 50, although Germany has most listed companies. Despite only having 6 companies within the European league table, Italy's international significance is reflected by having 38 companies within the International Top 250. However, France now exceeds this figure with 40 (35, 36).

The prime national industry aspects include; the role of government, capital market condition, taxation, demand and supply profiles, company organisation, and the role and application of regulations. These relate to the elements of culture, history and economic progress and typically constitute considerable variation throughout Europe.

In terms of individual companies the main differences lie within corporate culture, accounting policies and the degree of diversification and peripheral business activity.

European construction is a complex, dynamic market composed of numerous variables which combine to create distinguishing characteristics and trends.

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CHAPTER EIGHT.

NATIONAL PROFILES.

8.1 Introduction.

Within Chapter 5 it was stated that this research will incorporate an analysis of a series of six test nations, three representing home (internationalising) nations and three representing host (location) nations. A framework of information will be constructed for each of these nations through secondary analysis within this Chapter.

An analysis of competitive advantage using the Porter framework will relate the characteristics of the nations, aspects of differentiation and their particular competitive attributes. An understanding of this framework will be formulated from secondary data assessment for the test nations.

Chapters 6 and 7 have introduced the wide environment of the research area, Europe, through focussing on to socio-economic and geophysical differences, in addition to identifying characteristic distribution of the construction industry. The home and host nations will now be examined in greater detail to show particular attributes and trends. This will assist justification and verification of empirical research analysis, and will also identify any anomalies produced.

The home nations employed within this research are France, Germany, UK. The host nations employed are Portugal, Spain and Italy.

NATIONAL PROFILES;

HOME (INTERNATIONAL) NATIONS.

8.2 FRANCE.

8.2.1 National Structure.

France is central to the EUR012, bordering on six countries. To the north are Belgium and Luxembourg, to the east Germany, Switzerland and Italy and to the south, Spain. With a land area of 544,000 square kilometres France is the largest country in the EC, and has a population of 54.6Mio in 1989, representing 100 inhabitants per sq.km. (1, 2, 3).

France suffered greatly during the 20th Century as the main battle-ground for two major wars. Post-war France experienced a series of rapidly changing governments and the fifties saw the break up of her colonial empire. Problems in Algeria in 1958 saw the recall of General de Gaulle, the wartime leader of the Free French to the Presidency and the start of a period of considerable stability. De Gaulle instilled a new spirit of national self esteem, which exists today. France became the second leading economic power in Europe. It was a founder member of the EEC and has always played a leading role (4).

Metropolitian France (which includes Corsica) is broken into a series of 96 Departments, divided within 22 Regions. The Regions serve as focal points for government funds and encouraging investment in their area.

The 1988 presidential elections saw the re-election of Francois Mitterrand for a second seven year term, while the Parliamentary elections saw the Socialist Party forming a government led by Michel Rocard. Rocard resigned in May 1991 to be replaced by Mme Edith Cresson.

8.2.2 Economy.

France has recently enjoyed faster than expected economic growth, principally due to recoveries in both exports and gross fixed capital investment. A boom in business fixed investment was fuelled by steadily rising profitability, stimulated by the

need to adapt to new technologies and the challenge posed by the EC's 1992 single market programme. Despite a public sector wage freeze, private consumption continued to grow.

Salient features of the economy compared with the immediate post-war period are its general advance into services at the expense of manufactured goods and the still important share of agriculture in comparison with other industrial economies (5).

8.2.3 The Construction Industry.

Construction is a dynamic sector within the French economy, with marked cyclical fluctuation in commercial and residential sectors being offset by major infrastructure programmes, which includes motorways, power stations, communication links (Channel Tunnel) and leisure parks.

Foreign construction companies, however, are not common in France for a variety of reasons (6, 7, 8);

First, the strength of the domestic competition, powerful home players whose appetite for domestic business has grown as their international market declined.

Secondly, the memory of involvement in the early 1970's, when some companies sustained sizable losses before retreating.

Thirdly, the French market has unique procurement methods and features, which restricts access. Contractors need to be officially qualified in order to bid for tenders and to obtain insurance cover. While this is open to foreign companies it is an expensive undertaking, tying up capital and labour without any certainty that business will result. Only rarely may detraction from these procedures take place.

Table 8.1 Construction Sectors within France.

Sectors:	1982	1984	1986	1988	1990.*.
Building	-(3.9)	-(3.8)	0.7	4.6	2.4
1.Housebuilding.	-(3.5)	-(4.5)	-(0.9)	3.5	1.6
1.1 New.	-(6.8)	-(9.1)	-(3.1)	5.1	-(0.2)
1.2 Rehabilitation	0.9	1.1	1.2	2.0	3.4
2.Non-residential	-(4.6)	-(2.6)	3.4	6.3	3.4
2.1 Private	-(4.5)	-(2.0)	3.2	7.8	3.9
2.2 Public	-(5.0)	-(3.3)	4.0	2.8	2.2
Civil Eng'	-(7.0)	-(8.6)	8.3	9.8	3.0
CONSTRUCTION	-(4.6)	-(4.8)	2.4	5.8	3.4

Note: * = provisional figure. -( ) = negative value.

Source: The Construction Activity in the European Community. April 1990 (9).

The recent decline in growth is related to the low level of investment expenditure by public agencies. The 1989 State budget was very much less committed to infrastructures compared with the budgets of preceding years, partly because the resources made available by the Special Large Projects Fund and the denationalisation funds were completed. The 1990 budget led to a number of fiscal adjustments, including a decline in that for re-invested income and various VAT rates, but there was an increase in capital gains tax (10).

Repair and maintenance of residential and social buildings is a large market, but making selective headway. Private demand within the sector is brisk, while work on prison construction and the rehabilitation of school buildings seems set to achieve good results.

General activity should be sustained thanks to the rail programme - a significant project, cable TV development, gas distribution networks plus sizable work on EuroDisneyland near Paris (11, 12, 13).

France's strength comes from its position at the crossroads of Europe and it seeks to capitalise on this advantage, principally through the expansion of the high-speed rail network and motorway system. The priorities for these projects are to relieve congestion in the Paris region by developing nation-wide links along three major axes (14, 15):

a). The central axis from Lille in the north to Marseilles.

b). The north-southwest axis connecting Britain, Bordeaux and Madrid, incorporating the Channel Tunnel.

c). The east-west axis from the Atlantic coast to the centre and south of Europe.

Costs and technical details of schemes to build various trans-Pyrenees links are being coordinated by the Spanish and French governments.

The French construction industry is being shaped by acquisitions and mergers. Acquisitions have pushed Compagnie Generale des Eaux (CGE) ahead of Bouygues to become Europe's largest construction company (16). Competitive pressures however, are forcing large contractors to chase smaller projects, forcing out medium sized companies.

Declining traditional markets are also forcing French contractors to move into new areas of activity, including property development, leisure, media and project finance. Further, since 1984 almost every major French contractor has entered the mechanical and electrical sector. French contractors are becoming direct investors in many development schemes.

European expansion for French contractors is centred on Spain and Belgium. Spain is a target because of its rapidly growing market. Belgium has close cultural ties with France, assisted by close proximity and the Belgian construction

industry is fragmented and ripe for intervention (17,18,19). France is probably the country where the tasks of the 1992 Single European Market have met the most response, both amongst the construction industry and in government circles (20).

As a result of market diversification major French contractors are among world leaders in turnover and breadth of technological capability (21, 22, 23).

8.2.3.1 Company Profiles.

Certain major companies within the French contracting market are assessed to introduce their particular characteristics, since these will predominantly be the companies undertaking internationalisation.

Bouygues.

The company has an international orientation and has progressed strongly throughout the 1980's, through internal growth and acquisition, principally concentrated within public services and utilities (24, 25, 26, 27, 28, 29) as noted within Table 8.2. In 1987 the company acquired 25% of the television company, TF1, now France's largest station. Bouygues is France's biggest road builder and is also the biggest housebuilder, completing 3,200 homes in 1989.

Table. 8.2.	1989 Sales.	1990 Sales.	Workforce.
Building and Public Works:	14.2Mrd FF	19.0Mrd FF	14,670
Roadworks:	19.8Mrd FF	21.0Mrd FF	31,033
Real Estate:	6.7Mrd FF	6.8Mrd FF	1,666
Services:	6.1Mrd FF	10.3Mrd FF	13,438.
TF1:	5.3Mrd FF	5.5Mrd FF	1,608
Mabinvest:	1.3Mrd FF	1.3Mrd FF	1,207
Total:	53.4Mrd FF	63.9Mrd FF	63,622

Source: Bouygues. Annual Report. 1989 (30).

Bouygues's European presence has expanded recently, particularly within Spain, Portugal, Belgium, Switzerland and the UK.

Dumez.

Dumez had sales in 1988 of 26.213MrdFF with profits of 0.691Mrd FF - making it the most profitable large contractor in France. Dumez has diversified, particularly within the Canadian and American markets. In France, Dumez acts principally as a building contractor. However, internationally much of the work is within the civil engineering sector. European involvement is limited, generally to within Belgium and the Iberian peninsular (31).

GTM-Entrepose.

GTM-Entrepose Group has diversified within construction and civil engineering, with sales exceeding 21Mrd FF in 1989. Dumez holds 37.5% of the shares.

Although the group's main activities are within France, and most importantly within the roads sector, the international market is significant accounting for 20% of sales.

Europe and Asia are key zones for the company with the wider Europe (Eastern) gaining attention through a 50% holding taken in the German company of Wiemer and Trachte. Portugal and the UK are other main areas of interest within Europe.

The company is diversified both by markets and locations, and has integrated into materials and aggregate supply (32).

Spie Batignolles.

The company grew considerably in 1989 with net income rising by 25% to 0.252Mrd FF. Sales increased to 26Mrd FF, with Europe and North America continuing to increase contributions. Within Europe the key nations were Belgium, Spain where the company formed Ginespie, and the UK where an interest in Davy Corporation is held (33).

The company is a multi-disciplinary contracting group with significant interests in electrical engineering, achieving synergy with the operations of the parent group.

Campenon Bernard.

The company achieved a revenue in 1989 of 3.02Mrd FF of which 1.18Mrd FF was within the international market. The group's international activities focus on; Europe - Denmark and Sweden with the Storebaelt sub-sea railway tunnel, Eastern Europe - Hungary, the United States, Africa, Middle East and Asia including the People's Republic of China (34, 35).

The company intends to develop international civil engineering operations, while also focussing on domestic construction which is assisted by commercial alliances.

8.2.3.2 Tendering Procedures. The main systems of tendering are (36, 37); - negotiated contracts,

- private development competitive tending,
- public works competitive tending.

Negotiated contracts are popular, possibly incorporating setting one contractor off against another until a lower price is obtained.

When competitive tenders are invited it is the law that the lowest tender be accepted.

General contractors are becoming more common though they often undertake only the main structural work of the project and sub-let the remaining work to sub-contractors. They also manage the project, coordinate the work of sub-contractors, order materials and supply all plant services etc. In those cases where no general contractor is employed the client enters into direct contract with several specialist contractors, overall coordination becoming the responsibility of the architect or engineer concerned.

8.2.4 Business Organisation

Apart from exchange control regulations, there is no specific law governing the formation of a French enterprise by foreign investors (38).

Exchange controls are among the most complex in Europe, although the regulations will be simplified by the 1992 process. Inward and outward investments and imports and exports are carefully regulated. New or expanded activities are invariably approved, but purchases of existing businesses are not generally accepted unless clear benefits to the French economy will result (39).

France collects most of its revenue at the national level via income tax, value-added-tax and registration tax, relating:

* - Territoriality, by which profits and losses of foreign establishments are excluded from the taxable income.

* - An imputation system, where shareholders are deemed to have received tax-paid dividends from companies and may then claim credit for tax so paid. However, this system is not available to foreign corporate shareholders.

Income received by French based companies is always subject to corporate income tax, as are branches of foreign companies. Entities which are not subject to corporate income tax receive partnership treatment. However, each of the members will be subject to taxation on the portion of the income derived.

8.2.5 Summary.

France offers a combination of characteristics which make its domestic market difficult to access and operate within by foreign companies.

The general characteristics of the nation are:

1. Centrally located within Europe, the country is large and supports only relatively low population density.

2. France has had a disruptive history through much of the 20th Century, finding strength through nationalism.

3. Governmental power is dispersed to regions.

4. The manufacturing industry has declined to be replaced by a prominent services industry.

5. The country is mineral rich, particularly in uranium.

Business procedures create certain characteristics:

7. The tax system is complex and unfavourable to non-French companies by their ineligibility to certain benefits.

8. Exchange controls are complex and restrictive.

9. Pre-qualification is required, incorporating investment and commitment with no guarantee of success.

10. French contractors are experienced in all aspects of construction, successfully diversifying to a broad range of operations. This diversity also extends beyond construction.

11. French contractors have concentrated on to their domestic market, which is protected and resistant to outside companies.

To summarise, France is a mature, centrally located nation with a strong economy (40). Nationalism and protection against foreign companies is apparent ranging from market access and business procedures to negotiations with individual firms.

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8.3. GERMANY

8.3.1 National Structure.

Germany lies in the centre of the wider Europe. The country has borders to the west with the Netherlands, Belgium, Luxembourg and France, to the south with Switzerland and Austria, to the east with Czechoslovakia and Poland, and to the north, Denmark (1, 2). The population of the reunified Germany is approximately 78Mio (3).

Germany was historically a decentralised country, however, integration through the efforts of Otto von Bismarck led to the founding, in 1871, of the German Empire (Reich). Despite defeat and territorial losses in the First World War, Germany preserved its unity. But this republic proved unstable and was weakened by the inflation of 1923-24 and the economic crash of 1929. Adolf Hitler, appointed Chancellor in 1933 following the rise of the Nazi party, exploited the situation to pursue expansionist policies, leading to the Second World War.

After the defeat in 1945, Germany was divided by the Allies into four zones of occupation. The American, British and French zone became, in 1949, the Federal Republic of Germany (FRG), while the Soviet occupied zone declared itself the German Democratic Republic (GDR). Political pressure and the tide of progress has recently seen the reunification of FRG and GDR.

Under the Chancellorship (1949-63) of Dr.Konrad Adenauer the FRG rebuilt itself to become one of the most affluent and economically dynamic states of Europe, a trend which has continued (4, 5).

8.2.2 Economy of the Former FRG and GDR.

Private consumption is the bedrock of the economy, typically accounting for 55-56% of demand, although internationalisation is also significant (6). However, since 1987 there has been a

slow down in the difference between exports and imports, as a potential balance of payments problem.

Prime impediments to long term growth are identified as (7):

* - Falling population,

* - Growing social benefits demands,

* - Strict environmental controls,

* - Heavily regulated goods and labour markets,

* - Economic and Political costs of unification.

This position is not be assisted by the trend of the German Bank Base Rate. From a high of 7.5% in May 1980, the rate fell progressively to 2.5% in December 1987. However, since then, and principally in 1989, the rate has risen consistently.

The condition of the former GDR has deteriorated recently, although the act of reunification is likely to be in the best long term interests of the country (8, 9, 10, 11).

However, there is a current trend of increasing unemployment which is likely to continue under the present privatisation programme as seen in Table 8.3 (12).

Table. 8.3. Labour Rates within the Former GDR.

	Unemployment (thousands)	% of Total	Unfilled Vacancies. (thousands)
1990: October:	537	6.1	25
November:	589	6.7	24
December:	642	7.3	23
1991: January:	757	8.6	23
February:	787	8.9	21
March:	808	9.2	21

Source: German Chamber of Commerce. May 1991.

The trend in the decline of the former GDR is also reflected within the cost of living index which has risen (with a base of 1989 = 100) from May 1990 at 98.3 to February 1991 at 106.8.

The index of industrial production demonstrates a marked decline as production is curtailed or relocated.

Table 8.4. Index of Industrial Production in the Former GDR:

1990:	Index (1985 = 100)	% change on previous year.
January:	105.6	- 5.0
March:	109.3	- 4.1
May:	103.0	- 9.0
June:	96.2	-15.5
- - - Economic	Monetary	Union - - -
July:	62.6	-42.1
September:	54.7	-51.1
November:	56.9	-48.4

Source: German Chamber of Commerce. May 1991.

8.3.3 The Construction Industry.

Between 1965 to 1989, capital spending on construction as a proportion of GNP fell from 19% to 11.5%. This decline was mitigated until the early 1970's by a massive expansion of orders overseas. In 1981 foreign orders stood at around £4bn, excluding the US and Australian markets, but by 1988 they stood below £650m (13, 14).

The construction sector plays a major role in the economy of Germany. However, the industry is affected by a downturn in capital spending by federal and state authorities and a sharp fall in orders from oil producing countries, where West German contractors had played a leading role in construction projects.

In 1987 the construction market was worth DM248.2Mrd rising to an estimated DM284.6Mrd in 1990, in the former FRG. However,

using the January 1991 output data it is anticipated that a decline in construction production will be experienced throughout the current year, 1991 (15). Attention to infrastructure of the former GDR and to the developed markets of America and Australia may serve to mitigate this trend through the opportunities available (16, 17, 18, 19).

8.3.3.1 Company Profiles.

The following review introduces prime German contractors and aspects of their characters.

Philipp Holzmann.

Holzmann is the largest German contractor, employing 28,700 people and creating a turnover of DM7,760Mio. The company's main market sectors are commercial and industrial buildings, with international orientation to Europe, Africa, the Far East and the USSR in addition to the USA (20, 21).

The company has developed firm ties in numerous domestic and international markets and has the capacity to offer significant experience to clients.

Hochtief.

Hochtief is orientated towards technically demanding sectors including tunnelling, bridge and industrial plant construction, with limited exposure to residential development. Research and development are key aspects of the group's function to meet this technological requirement, with emphasis placed on ecosystems - a growing market sector (22, 23, 24).

The company's turnover was DM 5,464Mio in 1989, distributed 3,506Mio domestically and 1,958Mio internationally, producing 0.5% return on sales.

Bilfinger & Berger.

Bilfinger & Berger is the third largest German contractor, employing 30,220 people, of whom 20,637 are employed abroad where the company continues to expand. The USA, Asia, Africa and Latin America are prime markets. European interest includes the UK, Belgium and Spain. The opportunities within the reunified German and the access presented to Eastern European countries are considered important (25).

Strabag Bau-AG.

Strabag is primarily involved within the building and civil engineering sectors. Overall turnover in 1989 was DM2,630Mio creating DM 73Mio pre-tax profit. The company employed 12,700 people of which 4,400 were within the international environment, although 75% of sales were within the domestic market (26).

Walter Thosti Boswau.

The company is predominantly operational within the German domestic market focussing on civil engineering, though housing is also an important sector. Internationally the prime markets are the Middle East generally, Greece, Canada and the USA.

Employment in 1989 was 7,000, creating a group turnover of DM1,720Mio. The company operates a stated policy of 'earnings have priority over turnover'. R and D is a key aspect of the group's activities with environmental technologies forming a major sector in recent progress (27, 28).

8.3.3.2 Industry Structure.

In Federal Germany, the construction sector comprises two entities (29,30):

a) the "Bauhauptgewerbe" i.e: the building-fabric and civil engineering sector.

b) the "Ausbaugewerbe" i.e: the finishing trades sector.

The Germans use the term 'contractor' for a legal entity which may have several subsidiaries or several production units. In 1985, there were more than 16,000 building and public works contractors with more than 20 employees, employing in all a million people and having a turnover of DM111Mrd.

In the 'Bauhauptgewerbe', 59% of companies employ fewer than ten people, representing a relatively fragmented industry structure. There is some growth in small contractors (with fewer than ten employees), relative stability in the 10-19 employee category and a decline in the number with more than 20 employees.

'Ausbaugewerbe', the Finishing Trades Sector firms employ almost 300,000 people and account for just over 20% of the turnover of the construction sector.

8.3.3.3 Tendering Procedures

For government schemes, contracts are placed as result of public advertisement, but for private schemes it is more usual to selectively invite tenders. The contractor usually enters into a lump sum contract based on a specification and bill of approximate 'unit' quantities. The majority of work is still let directly to individual trade contractors. Joint Ventures are common, accounting for some one third of all construction in Germany (31).

The general rules of contractual liability extend for five years after acceptance. Moreover, this five-year period may be reduced contractually to two years. It is backed by architects, engineers and contractors but is not directly accompanied by insurance. However, professional insurance covers all acts of the insured party committed during the period covered and resulting in claimable damages. Surety bonds are optional, but are almost always required (32, 33).

8.3.4 Business Organisation - A non resident may do business in Germany either as a branch of a foreign company or by using one of the several kinds of organisation recognised under German law.

As a rule, the company's name must indicate its purpose or contain the name of at least one of its shareholders. Foreign corporations may use their corporate names for German subsidiaries. Any lawful foreign enterprise may conduct business in Germany (34).

Germany imposes virtually no restrictions or controls on foreign investment and is one of the few countries in the world that has no permanent currency or administrative controls over foreign investment. There are no exchange control requirements on normal commercial transactions, with the exception of informing the state bank for statistical purposes.

Corporations are treated as taxable entities and those resident in Germany are subject to German tax on their worldwide income. Corporations not resident in Germany are subject to tax only on income from sources in Germany (35).

8.3.5 Summary.

The main markets for expansion are environmental protection and the increasing requirements for replacement and modernisation, particularly within the former GDR region.

The positive side of environment protection is not simply the high amount of investment required, but the fact that the investment is laid down and programmed in laws.

Renovation in housing and public buildings has now reached as much as 50% of the total volume of the building sector output.

Other prime considerations for the characteristics of the German industry are:

* Economic strength, including a trade surplus built on a strong manufacturing background and provided with significant financial power. However, the service industry is not so well developed.

* Political stability.

* Large, but aging population - social costs will rise.

* Internationally orientated country, with partnerships common, built on a reputation for quality and reliability. However, the trend towards cooperation tends to dilute the strength of the company and its competitive advantage.

* Direct access to the wider Europe, though the costs of reunification may prove to be very high.

* Educated, skilled workforce, although motivation is showing signs of decline.

* Clearly regulated market conditions, although this may restrict innovation and development.

* New business formation has faltered by lack of entrepreneurship and innovation.

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8.4. UNITED KINGDOM.

8.4.1 National Structure.

The United Kingdom incorporates mainland Britain and Northern Ireland and lies to the north of the European continent. The mainland forms an island separated from the continent by the English Channel. Northern Ireland, once an integrated region of Eire, covers six of the eight counties of Ulster. The area of the United Kingdom (UK) is 244,100 sq.km, with a population of 56.4Mio, representing 231 inhabitants per sq.km, the fourth highest density in the Euro12 (1).

After some seven years of strong economic growth 1989 saw the start of recession in Britain. Political conditions also faltered and uncertainties developed.

When Mrs Thatcher came to power the division of the opposition assisted retention of power. The Labour Party had internal quarrels, mainly over defence policy and Britain's membership of the EC. Labour also remained closely identified with the trades unions. However, the long term presence of Mrs Thatcher, the recurrence of the problem of inflation and related unemployment, and the implementation of a series of semi-radical reforms provided the basis for resignation in late 1990. Thatcher's successor, John Major, appears to have adopted a more flexible attitude. Yet, despite entry into the Exchange Rate Mechanism of the Euro12, which will serve to stabilise the value of sterling, inflation remains a key economic concern, wage levels are relatively high and unemployment is rising. Further, Britain's balance of payments position is in a poor state (2).

The government is focussing on to public spending, notably training, education and the health service in an attempt to dissipate support for the 'new' Labour Party. However, the recession will influence all aspects of the economy and the time for recovery is uncertain. The key issue is generally

cited as a reduction in the level of interest rates, although even once these are initiated the UK consumer is likely to be more cautious in spending and investment than during much of the 1980's.

Table 8.5. UK Economic Indicators.

Factor: (% change on year).	1988	1989	1990#	1991*
Non-oil GDP.	5.7	3.6	1.0	0.8
Government consumption.	0.5	0.8	1.7	1.0
Consumer expenditure.	7.2	3.9	2.0	1.0
Fixed investment:	14.8	4.8	-(1.5)	-(2.5)
Residential.	5.7	-(3.0)	-(6.0)	-(3.0)
Non-residential.	17.4	6.5	-(0.5)	-(2.5)
Average earnings.	8.7	9.1	9.9	9.0
Retail prices.	4.9	7.8	9.5	6.5
Real disposable incomes.	5.9	5.3	3.6	2.0
Three months interest rates.	10.3	13.9	14.7	12.0

Source: Building. 11/01/91. # = Estimate. * = Forecast.

The data in Table 8.5 demonstrates the recessionary influence on the UK, with a collapse of consumer expenditure and investments yet high earnings and prices.

8.4.2. The Construction Industry.

The prospects for the construction industry as a whole are not good, although sector variations exist. Residential activity has declined 15% in real terms since 1988. The forecast increase reflects lower house prices, rising wages and prospects of lower mortgages. But, many houses are readily available and increasing unemployment will serve to restrict growth (3).

The business community is suffering the full force of the recession, resulting in falling profits and pressure on capital utilisation. The completion of major office contracts in London over the next year or so will further add to supply.

Public sector non-residential spending incorporates road and rail schemes. Health, education and prison service will also invest heavily over the next few years, but defence spending is in decline.

Table. 8.6. UK Construction Output.

Factor: (% change on year).	1988	1989	1990#	1991*
Housing: Total	8.2	-16.8	-19.0	4.0
Private:	11.3	-18.7	-20.0	5.0
Non-residential: Total	8.6	15.0	1.0	-12.5
Public	1.0	5.3	2.0	4.0
Industrial	8.1	7.1	-4.0	-5.0
Commercial	14.6	26.4	3.0	-25.0
All new work	8.4	4.4	-4.3	-8.7
Repair, maintenance & improvement	4.4	3.2	1.5	-0.5
Total: All new work (@)	6.6	3.9	-1.8	-5.0
Total: All new work	7.2	4.2	-1.5	-5.0

Source: EuroConstruct. Building. 1 January 1991. # = estimate. * = forecast. @ = excluding Channel Tunnel.

The expected fall in construction activity at -5%, is the greatest since 1981, with commercial projects; office and factory buildings, most affected. However, there are a variety of major areas of activity underway in the UK, despite the current recession, including (4):

The Channel Tunnel.

The Channel Tunnel is due for completion in 1993 and will link the mainland United Kingdom at Folkestone to the continent at Calais by a permanent fixed link of three tunnels. The tunnel is being constructed by a consortium of five French and five UK companies within the Transmanche-Link (TML) organisation, for Eurotunnel. The sphere of influence of the project is very wide and offers a range of construction opportunities beyond the basic tunnels.

Motorways.

The UK motorway system is due for investment following the decision to spend £12Mrd on the primary network for specific development programmes influencing numerous routes.

Port Investment.

Following the 1989 Dock Work Act and the abolition of the National Dock Labour Scheme, sizable investment is expected. Specifically:

Dover: £55Mio in new facilities,

Felixstowe: £45Mio in port extensions,

Hull: £30Mio for new ro-ro facilities,

Immingham: £20Mio for new jetty,

Thames Estuary: £80Mio for container and bulk facilities,

Tees & Hartlepool: £335Mio for terminal.

Property Development.

Despite the recession, property development is still initiated due to the long time lags between project inception and completion - time when economic recovery may begin. Almost all major cities have large projects underway or at inception.

8.4.2.1 Company Profiles.

The UK recession, the US recession and competition from home and abroad has resulted in a notable depression within the construction industry (5, 6). Very few firms have expanded, most are surviving in difficult conditions which may continue for some time, while an increasing number of contractors have gone into liquidation or currently ceased trading.

The following list is of the top ten UK contractors based on their 1989 data, the latest full listing (7).

Table 8.7. UK Company Data.

Company.	Turnover £ Mio.	% Change on year.	Profit £ Mio.	% Change on year.	No of Employees
Tarmac.	3,527	24.4	377.0	-4.1	32,073
Trafalgar House.	2,563	25.8	232.3	14.7	29,103
Wimpey.	2,008	18.5	134.7	-6.8	17,400
AMEC.	1,992	52.1	91.3	48.2	30,121
Beazer.	1,969	46.6	142.5	24.2	20,462
P & O.	1,665	39.7	210.3	1.9	64,423
BICC.	1,610	18.5	46.1	-10.1	46,035
Costain.	1,404	22.0	55.1	-38.2	13,750
Laing.	1,363	0.5	57.5	-15.6	13,800
Taylor Woodrow.	1,321	4.8	116.9	13.2	9,202

Source: Swiss Bank Corporation. European Contractors. 1990.

An assessment of the undertakings of five of these companies will serve as an insight into the nature of operations.

Tarmac PLC.

Tarmac is the biggest UK controlled building materials and construction group. Reserves of stone, gravel, sand and clay exceed 3Mrd tonnes. The Tarmac Group includes the UK's largest construction materials supplier, largest housebuilder and largest building and civil engineering contractor (8).

The distribution of work was predominantly within the UK - £2,948Mio, with £418Mio undertaken in the US and £146Mio in Europe, with £16Mio elsewhere.

George Wimpey PLC.

The company is seeking diversity for economic robustness, and is focussing on four prime areas: housing, contracting, aggregates and property. As with Tarmac, most of the turnover

was in the UK, at £1,479Mio, with £296Mio in the US, £156Mio in Canada and other sales of £167Mio (9).

Beazer PLC.

The company has three geographic divisions; America, Europe and Overseas, and Far East. The company has a significant interest in the US market and has undertaken a global diversification programme. The company is heavily indebted through its borrowings for corporate development (10) and has recently agreed bid terms from Hanson.

Costain Group PLC.

The company has a large UK building and construction operation, but more significantly has expanded strongly into the US and Australian aggregates industry. These countries also provide the source of a range of construction activities. The company has a modest presence in Europe, although activity in Spain is expected to increase in the near future (11).

John Laing plc.

The company undertakes a full range of construction activity, and had significant interest in housebuilding. The company has a sizable construction base in the US. Overseas activity also includes work in Europe with Spain, and to a lesser extent France, as the key centres of activity. Other international sites include various Middle East countries (12).

UK contractors are generally well supported by diversity of activity and vertical integration investments, however, they are experiencing the effects of recession and high interest rates. Internationally, the US is a very common site for activity, either in construction or materials, while within Europe Spain is particularly active (13, 14).

8.4.3 Business Procedures.

There are three main methods of establishing a business in the UK (15): - by establishing a company,

- by registering a branch of an overseas company,
- by a merger or acquisition with a UK company.

Companies are distinct entities, separate from its shareholders though these determine the extent of liability. Share limitation may either be within a private company or a public company. Private company's are more common due to the ease of formation, particularly for small businesses.

Companies are registered with the Registrar of Companies and receive a certificate of incorporation, after which the company may start trading, unless specific approval is required.

To register a branch of an overseas company in the UK allows that company to be regulated under the laws of its place of formation.

A UK resident company is liable to corporation tax on its worldwide profits, which is all income and capital gains. A non-UK resident company is only subject to tax on that proportion of income earnt through its UK branch activities. After the 1988 Finance Act, all companies incorporated within the UK are treated as resident for tax purposes.

Corporation tax is payable based on a twelve month period. Companies are always taxed separately from any group or parent structure and pay a single rate of tax on both distributed and undistributed profit. Capital gains are taxed at the normal corporation tax rate, with applied relief to account for inflation.

Britain has for a long time attracted foreign direct investment, most notably from the US (16). In 1988, 39% of all EC investment by US corporations was made in the UK. Japan is a more recent arrival within the European scene, but has also selected the UK as a prime site for investment. Other EC

members are also expanding into Britain particularly Germany, France and Italy.

Britain has had various investment incentives for companies coming into the UK market, including Regional enterprise grants, Enterprise Zones and City Grants.

Productivity within the UK has improved due to skills training over the past decade, principally due to enhanced vocational training, multi-skilling and flexibility of operations. However, compared to Germany, France and Japan the level of skills training is relatively low, notably in areas of technological applications. Education and training of young people has therefore become a key factor in the development of the nation. As such, training schemes, careers guidance and the enhancement of vocational tasks are underway to rectify this situation (17, 18).

8.4.4 Summary.

Certain prime aspects affect the competitive profile of the UK, including;

* The UK has over the past fifty years gradually lost its competitive advantage within manufacturing and turned progressively to the provision of services, notably during the past decade.

* Human resources are relatively poorly trained compared to competitors. This requires commitment in education, vocational training, research and innovation.

* Research and development is relatively limited.

* The UK consumer market is relatively unsophisticated.

* Competition has developed within UK industry, assisted by the government's privatisation programmes and the formation of regulations directed towards fair competition. However, much of the competitive force is directed domestically rather than internationally.

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NATIONAL PROFILES;

HOST (LOCATION) NATIONS.

8.5. PORTUGAL

8.5.1 Introduction.

Portugal lies at the south western tip of Europe and has had independent status since the 12th Century. It has a surface area of 92,100 sq.km and a population of about 10.1Mio (1). Until recently the country was generally remote from the activity of the continent, however, since the early 1980's, European integration has strongly influenced the country, though much remains to be done (2).

8.5.2 Economic Profile.

The main feature of the economy is its slow pace of change. It was only in the 1960's that the transformation of Portugal truly began, moving from agriculture to industry and services, as seen in Table 8.8.

Table 8.8. Portugal: Shift in GDP Output.
(% of total)

	1960	1970	1980	1985
Agriculture etc.,	26	16	11	9
Industry & construction	36	46	39	40
Services	38	39	50	51
GDP at Factor cost: Total	100	100	100	100

Source: 'Portugal to 1993'. 1990 (3).

Since 1975 the Portuguese economy has experienced two major economic trend cycles and is now in a third (4).

High domestic expenditure led to strong expansion but rising current account deficits and foreign debt during 1976-77 and thus to the first stabilisation plan of 1978.

Later, in 1980-82, high spending ensured massive current account deficits and spiralling debt.

Now a third phase of expansion is under way. However, this time the international conditions are favourable and there is likely to be a greater emphasis on competitiveness and accountability, laying the foundations for strong growth.

Entry into the EC, combined with the process of financial liberalisation, should ensure that more funds are channelled towards fundamental needs and growth areas. Large grants from the EC will also help. Private Portuguese banking estimates indicate EC aid of US$10Mrd or more over 1988-1992 will add one percentage point annually to real economic growth.

However, Portugal's vulnerability was underlined in 1988 when bad weather hit agriculture and depressed tourism. Further, inflation once again picked up as evidence of over-heating in the domestic economy, despite slower growth. The main economic problems are public sector debt, underdeveloped public services and low export technology (5).

Domestic demand will continue to be the main impetus to expansion, though both private consumption and investment growth rates are likely to decline due to market saturation and the impact of interest rates. The deteriorating trade balance will push the current account into deficit, though this will be financed by the continued influx of direct and portfolio investment from abroad. However, this comfortable situation could fast disappear in the early part of the 1990's unless domestic demand is tightly controlled and export competitiveness improves.

An area which is of major though unquantifiable importance is the 'black' economy (6). This mainly takes the form of undeclared and thus untaxed income in private service sectors. There are four prime areas where the 'black' economy features prominently: undeclared tourist income, unofficial private construction, unrecorded small scale manufacturing, and undeclared income from foreign assets or deposits.

There is economic confidence in the Portuguese economy. Profits are improving and the lowering of EC tariff barriers lead to Portuguese firms undertaking more capital investment (7). Foreign investment is flowing into Portugal. Notably, German companies have been buying textile concerns, US banks are expanding and British companies are investing in tourism. The Portuguese government has also attempted to interest foreign companies in some of the large, state-owned corporations. The attitude of the government is to ease the way for foreign investment in Portugal's expanding economy (8, 9).

Portugal's natural resources incorporate substantial reserves of iron ore, copper, uranium, manganese, tungsten, tin and rock salt.

However, Portugal is poorly endowed with sources of energy. There are proven coal reserves and lignite, but hydro power produces 67% of the electricity and there are no reserves of oil or gas.

8.5.3 The Construction Industry.

The construction sector represents 52.1% of fixed capital, 5.5% of GDP and employs 334,200 people representing 8.2% of the working population. Most of the firms, almost 90%, are small employing less than 10 people. Only just over 2% of firms employ more than 50 workers (10).

Apart from the two government inspired mini-booms in 1979 and 1981, the construction sector has suffered considerable disarray with many of the firms involved having to find work internationally, in the Middle East and Africa and to a lesser extent in South America. The situation became particularly difficult during the period 1982-1985 when a significant number of the smaller contractors were forced into liquidation at a time when there was very little public or private spending.

The situation started to improve in 1986 due to the fall in the price of oil and of the US$ in which the oil was invoiced. Tourism boomed and inflation was brought down to a 15 year low.

Portuguese civil construction companies are not particularly profitable and severe cash flow problems are not uncommon. They are generally under capitalised and poorly equipped. Many local firms have become the subject of takeover bids by more efficient and aggressive foreign competitors as the market becomes more open to competition.

Portuguese firms generally do not have the financial muscle to pose a serious threat to foreign competition except for specific international cases where technical skill may be employed for competitive advantage (11).

Within Portugal, several recent roadworks contracts have gone to foreign firms in their own right, although the best prospects for construction firms wishing to make their presence felt in the Portuguese civil construction and public works sectors is probably in the form of an acquisition of an existing firm, or by forming a joint venture with a local organisation.

The mood of confidence has brought changes in the credit system for house purchase and increased purchasing power has led to an increase in home demand. However, building speculation is rendering the cost of residential buildings inaccessible to many indigenous families. Housing in Portugal is predominantly in the private sector (97%). The present housing shortage is still estimated to be 750,000 dwellings, not assisted by an almost non-existent rental market (12).

The main features of the Public Works programme may be summarised as follows (13):

a) Motorways and Highways.
b) Port Improvements; container facilities.
c) Airports.
d) Industrial Building.

e) Regional universities.
f) Energy; various power stations plus gas grid.
g) Communications; telephone system.
h) Tourism; numerous projects.
i) Railways; modernising and extension.
j) Water; numerous projects.

Building construction in Portugal has become marked by progressive technical evolution to improve performance. Industrialised systems of prefabrication are now fairly common practice. Notable examples in architecture and urbanisation at international level also exist. Experience in the field of anti-seismic construction and building in tropical regions has created a specialist expertise. This accumulated experience was an important aspect in gaining notable works of civil engineering in various African countries (14).

8.5.3.1 Industry structure.

Despite the boom in investment, Portuguese contractors return relatively low profit margins. So far investment in contracting from abroad has come largely from Spain and France.

Table 8.9. Top Portuguese Contractors.

Company	Sales 1987 £Mio	Company	Sales 1987 £Mio
Soares Da Costa	85	Engil	24
Teixeira Duarte	41	Constr do Tamega	24
Constr Tecnicas	38	A Silva & Silva	19
Mota & CIA	30	Edifer	16
Somague	26	Somec	16

Source: Industria de Construcao. 1988 (15).

Contractors, the major ones of which are identified within Table 8.9, are generally involved with both civil engineering and building works within a highly fragmented industry.

The capacity, technological structure and experience of Portuguese construction firms is internationally renowned, enabling them to undertake all types of building work either independently or as advisors (16). This is particularly the case within construction of airports, bridges, dams or other big hydraulic works in the Portuguese speaking African countries. Partnership schemes were also undertaken within Iraq, Syria, the United Arab Republic, Zaire and Brazil (17).

The entry of Portugal into the EC opened up new opportunities to Portuguese firms, through the vast experience accumulated in countries where the climate and geological characteristics are so varied, offering competitive advantage.

8.5.4 Business Organisations.

The following methods of obtaining tenders exist (18):

a) Public Competition. Tenders are invited from all suitably qualified contractors by published announcement.

b) Limited Competition. Contractors are restricted to those invited by the client.

c) Direct Contract. Appointed without competitive tendering.

Contracts however are often 'shared' on a "its-your-turn-basis", hence tendering is not very competitive.

Every new enterprise must register with the Commercial Register and the tax division of the Ministry of Finance.

The main types of commercial enterprise are (19):

- Corporation or joint stock company,
- Limited liability company,
- Branch of a foreign company.

Other types include partnerships and cooperatives. The limited liability company is the form most common amongst foreign investors setting up business in Portugal. Branches of foreign companies were generally not encouraged though this may change through EC procedures.

Foreign trade is subject to a licensing system and foreign exchange for imports is only obtainable from the banks on production of a valid import licence.

A non-resident company with a branch or other permanent establishment in Portugal is liable to pay tax on business income on all its Portuguese-source income attributable to that establishment (20).

Recently, increased union activity and a rise in the number of strikes has focussed attention on to labour relations, which are notably more significant in the public than the private sector.

8.5.5 Summary.

The attraction of Portugal is clear. The European Community, Portuguese government and multinational companies are pumping money into the development of infrastructure. Low wages, a stable political system and domestic demand for private investors are the incentives. The scale of investment planned is sizable for a country with one fifth of the UK's population and wage levels at 30% of UK rates. Some £15Mrd is to be spent over the next five years on infrastructure. Many opportunities arise out of Portugal's economic regeneration which the Portuguese government is encouraging and seeking to accelerate.

The Portuguese civil construction industry is to a large degree self-sufficient and many of the major civil construction firms have successfully completed large overseas projects.

However, specific opportunities include:

* Housing, Accommodation - There is an acute housing shortage, particularly around major towns.

* Water Supply, Effluent Treatment and Pollution Control.

* Railways, modernisation and development.

* Tourism, a major growth area for privately financed construction, but competitive.

* Management, various forms of management consultancy are required as market competition develops.

The Portuguese are becoming increasingly keen on collaborating with overseas companies as one way to encourage foreign investment. The formation of a joint venture company might be the optimum form of entry into the construction market, offering ready knowledge of the market and assistance in financing any necessary investment.

Attracted by the country's low wages, political stability and good prospects, foreign firms are increasing their stake in

Portugal. Investment is from many sources but especially Spain, France, Germany and the UK. Most of the money has gone into services, particularly banking and tourism. Acquisitions of Portuguese firms are accelerating while the increased funds (especially from the UK) are also going into property. However, continuing focus on low technology products may limit future prospects for internal generation.

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8.6. SPAIN

8.6.1 National Structure.

Spain is the second largest country within the EC, with a total land area of 504,750 sq.km. Situated at the South West corner of Europe the country has a coastline of some 2,080km. Most of the country is mountainous with a high plateau in the centre. The population is 38.4Mio, representing a density of 76 inhabitants per sq.km. (1, 2).

The present government's popularity has suffered from its campaign in favour of NATO membership (3).

The Spanish economy has progressively developed. In the period to 1970 the industrial base was built up, achieved by gradual economic liberalisation and industrial protectionism. Spain is now a major motor vehicle manufacturer and a nett exporter of consumer and agricultural goods, while tourism continues to increase (4). However, many of the industries which expanded strongly in the 1960's and early 1970's (such as steel, ship-building, chemicals and engineering) have faced recent difficulties through cheaper imports.

The prime areas of growth/economic activity are (5):

* - Barcelona/Catalonia; fastest growing, 20% of GDP.
* - Madrid; the financial/administrative capital.
* - Vallencia and Andalusia; tourist activity.

Economic growth has generally exceeded forecasts as domestic demand surged ahead, pulling in imports principally through investment and private consumption. The budget targets involve a redirection of expenditure towards infrastructure and basic services. Central government expenditure is projected to rise as a proportion of GDP but buoyant revenues, reflecting strong economic growth and improved tax collection are forecast to

reduce the central government budget deficit (6,7). Domestic demand is likely to remain buoyant with strong, although reduced, rises in both private and public consumption.

8.6.2 The Construction Industry.

Having fallen by 12% in real terms between 1977-81, construction expenditure remained weak in the first half of the 1980's and employment in the sector fell from 963,000 in 1981 to 770,000 in 1985. EC entry in 1986 reactivated the property market at a time when regional governments and local authorities had greatly increased their building programmes. In 1987 construction expenditure rose by 10%, after a 6% increase in 1986, to account for some 7% of GDP (8, 9).

The increase in housebuilding is due to enhanced family incomes, expanding tourism (second homes) and purchases by foreign buyers (temporary or permanent homes). However, the rehabilitation and maintenance of residential buildings is the sub-sector with the highest expansion rate (10, 11, 12).

Non-residential building has also expanded through the activities of private multinationals and large Spanish companies who are prepared to pay the top rents.

Major Spanish construction activity includes (13, 14, 15, 16):

Barcelona Olympic Games

Barcelona was awarded the 1992, XXV, Olympic Games and will build, or extend, main areas as Olympic sites, although it is estimated that about three quarters of the facilities required are already in use in the city. Facilities for the Games will be financed by a mixture of public and private investment. Public investment is estimated at over 200Mrd Pesetas.

The Seville World Fair

More investment will be required in Seville for the World Fair in 1992 than in Barcelona for the Olympic Games. The theme of the fair will be 'The Age of Discovery' (17).

The Spanish Motorway System

Although the Spanish motorway network covers over 2000kms, principally in the Catalan and Basque areas, much of the country is poorly served by motorways due to difficult topography. Development calls for 3500km of new and 18,000km of reconditioned highway.

The Railway Transport Plan

The Spanish railway network requires development and sizable investment has been initiated.

Energy and Power

The Government has a policy of reducing its dependence on imported energy with the result that 200Mrd Pesetas was set aside for the development of the coal industry and hydroelectric schemes.

Tourism

Spain is one of the world's most important tourist destinations. Its population annually welcomes 47Mio visitors and numbers are still growing. However, Spain's attraction is based essentially on sun, sea and sand. The interior of the country remains relatively unknown. Government and local authorities are examining how tourism fits into the country's more general development plans.

8.6.2.1 Industry Structure.

In 1984, there were 102,097 construction firms in Spain employing a total of 847,318 people. Small firms, 68,000 of them, had fewer than 6 employees (essentially self-employed workers) and 29,000 firms had between 6 and 100 employees, representing 95% of all firms. There are just 615 firms (0.6% of the total) with more than 100 employees (18).

Certain major Spanish contractors are assessed to demonstrate their particular characteristics.

Agroman.

The Agroman company has continued to take advantage of the expanding domestic market although it has maintained its foreign operations though these account for only 3% of turnover. There was a significant increase in the number of civil engineering projects, particularly roads, increasing 129.4% over the two years to 1989. The company has a joint venture with the German company, Holzmann, focussing primarily on mechanical engineering (19).

Ferrovial.

Ferrovial has developed with the general growth in the Spanish market. In 1989 the company had a turnover of 122,000Mio Pesetas, an increase of 41% on 1988. The company sees Europe as its operational ground and is acting to ensure that opportunities are not missed (20).

Dragados y Construcciones SA.

Dragados is Spain's largest contractor with interests in all sectors of construction activity, notably civil engineering and public works (21).

As with most Spanish contractors the focus of activity is primarily within the domestic market, which accounts for 90% of turnover, the remainder is within South America and North

Africa, although recently European operations have gained in significance. The company has controlling interest in the Portuguese contractor, Ramalho Rosa and is also carrying out motorway contracts as joint ventures within the French market.

Formento de Obras y Construcciones SA. (FOCSA).

The group is the most diversified of the main contractors with interests in food production and advertising in addition to the core business activities. Contracting contributed 68% of profits, while sanitation and waste management is a key sector for the company with some 50% of the Spanish market (22, 23).

Huarte.

Sales were predominantly within the domestic market, 91%, while internationally Central and South America were important, though after certain loss marking contracts, Portugal is now the main overseas site. A cooperation agreement exists with the Finnish company HAKA, which is yet to be operated. Sales are divided equally between civil engineering and residential and commercial building (24).

8.6.2.2 Tendering Procedures.

The most common methods of tendering are (25):

a). Competitive Tendering. Each tenderer makes their own investigations and estimates to arrive at the tender figure, which is expected to be lower than the Official Estimate. Normally the contract will be awarded to the lowest tenderer, though if a tender is more than 10% below the average of other tenderers, it is 'imprudently low' and disqualified.

b). Qualifying Competition. Awarded to the most suitable contractor based on an assessment of track record, experience, personnel, plant and equipment etc. and tendered figure.

c).Qualifying Competition with Competitive Tendering. List of tenderers is reduced to the most suitable contractor's whose tenders are then considered.

d).Direct Contracting. Negotiate with a suitable contractor.

Most Contract conditions are to some extent negotiable.

State Contracts Law makes it compulsory for construction firms to obtain a 'classification' relative to their construction capacity and to register with the corresponding Register. Classification is compulsory for works exceeding 5Mio pesetas.

8.6.3 Business Organisation

The most common form of business organisation for foreign investments in Spain is the Sociedad Anonima (SA) which is comparable to a UK public company. The limited-liability company also exists under Spanish law. An SA has no minimum capital requirement, restrictions on nationality or residence of directors. Control is by 51% or more of the equity, though two-thirds majority is required to undertake action altering the company's statute. Control is absolute with 91% of the equity (27).

Foreign companies may also operate within Spain via a branch organisation which is similar to the operations of an SA. Earnings may be freely transfered abroad (28).

Spain's foreign investment procedures were liberalised in 1986 to fulfil the rules of the EC. After initial approval for a foreign owned venture from the Ministry of the Economy, no further approval for additional investment is required, clearance being virtually automatic. Investment can be made in the form of cash, reinvestment, machinery, intellectual property and technical assistance.

Controls are administered by the Bank of Spain and by the Ministry of Economy. This again has experienced considerable liberalisation in recent years.

The present Company Income Tax (CIT) is levied on companies under the general method of taxable revenue less deductible expense equal to taxable income. A company which is resident in Spain is subject to CIT with respect to revenues and increases on equity. A non-resident company in Spain is subject to CIT with respect to the revenues and increase in equity generated in Spain.

8.6.4 Summary.

Foreign confidence in the future of Spain is expressed by massive investment in the Spanish market.

In the public sector, 1992 is the big year with the Barcelona Olympics, Expo'92 in Seville and Madrid will be European cultural capital. Then there is significant investment to be spent each year on highway and railway construction.

The distribution of construction work by sector is very different to the UK. Housing and civil engineering are more significant markets. Second homes are important, particularly to the indigenous population, explained by tax laws which are generous to property owners. Recent reforms have left real estate as the last investment vehicle for non-declared capital. But investment from overseas is also significant.

Meanwhile, investment in office and commercial developments is running at a high level.

The country has considerable opportunities assisted by foreign direct investment, government support for projects and increases in EC funding. However, competition within this market is very strong, primarily by the influx of other EC member's companies and international contractors, notably from the US and to a lesser extent, Japan.

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8.7. ITALY.

8.7.1 National Structure.

Italy is a major economic force, sophisticated and consumer orientated, particularly in the north. The country has an area of 301,262 sq.km, and has a population of about 57Mio. The country is regionally divided, particularly between the 'Mezzogiorno' - the south where 35% of the population live with only 24% of the country's wealth, and the prosperous, industrialised, north (1,2).

Italy is a Parliamentary democracy with a Republican constitution. Since the second world war, Italy has been governed by a series of (often short-lived) coalition governments. The Christian Democrat Party is the most dominant party in Italian politics (3, 4). The longer term shows the government intent on tackling the problems of institutional reform. Yet on many issues there is little common ground amongst coalition members.

In Italy there is a certain abundance of two fundamental ingredients for growth: entrepreneurialism and capital. Since the 1960's and 70's, when the entrepreneurial role was largely delegated to the state, the country has discovered a new desire for capitalism. Italian enterprises are confidently preparing for the post 1992 European market. Strong investment growth in recent years was sustained and profitability and confidence are improving not only in private industry, but also in the giant state conglomerates (5).

Companies have learnt to live with high interest rates and have invested heavily in modernisation and capacity expansion. However, political trouble has again struck the country with renewed tensions amongst the members of the coalition government, the most recent collapse of the government being in April this year, 1991.

8.7.2 The Construction Industry.

Official statistics demonstrate increasing demand trends in many aspects of the construction industry (6, 7). One particularly pressing need is the renovation of ancient cities, now generally paralysed with traffic and people. The renovation sector has more than doubled since 1981 while during the same period the construction of new buildings has declined. Investment in the restoration of dwellings accounted for 44% of the construction industry as a whole in 1988.

Other major construction areas include some 800km of motorway under construction, extensions to the main state railway system and an Alpine railroad tunnel between Austria and Italy (8).

The major construction firms are not particularly large in European terms since they are generally subsidiaries of diversified industrial groups, which are only partly concerned with the construction industry. Small contractors generally specialise in sub-contracting and operate in more local markets. This structure, however, did not hinder the historical export rate in the Italian construction industry particularly to South America.

Determinants of the presence of Italian firms in other countries include (9, 10):

* the importance of historical and geographical factors, such as the location of ex-colonies,
* proximity of Mediterranean countries, and infrastructure funding,
* the long-standing Italian immigration (Argentine, Australia etc.), mean that Italy has had considerable overseas presence.

Up to 1987, in a declining overseas construction market, whereas the majority of exporting countries had drawn back or stagnated, Italy experienced growth. Italian firms have forged their competitiveness through flexibility, adaptability and a

high level of technology. However, since 1987, export values have declined and contractors are refocussing their operations domestically, as this market expands (11).

Manufacturers for the construction industry are highly dispersed but also highly effective in international competition, such that Italy is a major exporter of construction products.

There is a progressively dynamic domestic demand for construction which has assisted the development of contractors. The towns and regions are the origin of a decentralised public demand whose growth contrasts to the decline in the investment capacities of the debt-burdened central authorities (12).

8.7.2.1 Company Profiles.

The following introduction to select Italian contractors focuses on their general characteristics.

Astaldi.

The company had sales of L550Mrd in 1989, producing a return of 5%. The company has initiated a series of cooperation agreements and joint ventures, in particular Holzmann of Germany. Further, the company has close ties with the Italian company Fougerolle (13).

The company remains in private ownership and is seen to be fairly successful internationally where more than 50% of sales are achieved, particularly within civil engineering works.

Italstrade.

This company forms part of the IRI group under the Italstat division. The firm has 83% of its sales within Italy with the remainder from Africa, the Middle East, South America and Turkey. The company achieved sales of L687Mrd in 1989 making a 10% return on sales (14, 15).

Cogefarimpresit.

The company was formed by the integration of the contracting operations of Fiat Group and the listed company Cogefar. The main European countries of operation are France, Germany, UK, Belgium, Spain and Greece. Eastern Europe is of notable attention to the company and work is underway in Czechoslovakia, Hungary and the USSR (16, 17).

Lodigiani.

The company is 100% family owned and produced a turnover of L455Mrd in 1989. The company often works in joint venture, both internationally and domestically. The European countries of most interest to the company are France, Switzerland, Spain and Greece (18).

Grassetto.

The majority of the company's activities are located within the domestic market (90%) with a broad exposure to the construction market. Property development is deemed by the company to offer future prosperity, while the contracting sector is hindered by significant exposure to a single major project, the Tiso dam, which will finish in 1995 but required a sizable financial provision in the meantime (19, 20).

8.7.2.2 Industry Structure.

From 1986, construction firms (particularly private firms) were faced with the increased importance of public sector programmes: new laws for the Mezzogiorno, investment in the recently established Railways Board and granting of concessions for site work with a value of over L20Mrd. Faced with these major schemes Italian contractors have formed themselves into consortia and used a system of mergers and acquisitions. These alliances permit them to enter the market of major public contracts with increased capabilities of assembling financiers, designers and management (21).

There are fifteen main consortia in Italy. They include practically all the one hundred largest construction firms. One important characteristic of the consortia is their association with the credit organisations, permitting an increase in their capabilities in financial engineering.

In 1986 the then Prime Minister, Sig.Craxi warned local authorities that commissioners may be appointed in order to avoid the frequent delays of local government intervention. The formation of consortia is partly a response to such delays, as consortiums lead to enhanced democracy and eliminates battles between companies which traditionally have been linked with different political parties.

In Italy, contractors are registered with the National Register of Building Contractors which lists their work capacity characteristics. Reference to this listing is made during tendering but it is not compulsory for firms from other EC countries (22).

No widely accepted standard conditions of contract exists and regional difference can be expected. Most contracts are of a firm price.

There are three main methods of letting a contract (23):

* Open procedure - open access, now rare.
* Limited procedure - selection of appropriate contractors who then compete.
* Competitive tender - used if the project is still vague or if it requires specific technical capabilities.

Apart from contracts using competitive tender, which permits foreign firms to account for their technological expertise,

there is limited chance of a non-Italian firm obtaining a contract without indigenous contractor association.

Companies planning to invest in Italy are governed by the country's main foreign investment statute and by the administrative regulations of the Ministry of Foreign Trade. The business that a foreigner may establish in Italy are largely unrestricted and Italy imposes no general limit on the percentage of foreign ownership.

Business considerations, include (24):

* Exchange Controls - Foreign capital for direct investment may freely enter Italy.

* Management - The company's management may be entrusted to a single director or to the entire board of directors.

* Control - Unless the company's by-laws require a greater proportion, a simple majority of those shareholders present is sufficient for ordinary business matters.

8.7.3 Summary.

To operate efficiently in Italy fluency in the language is essential. An understanding of the political scene would also be needed and this takes time to acquire. The history of corruption in the construction industry makes the task no easier.

Italian procedures do not automatically preclude the involvement of foreign firms. There seems to be two main reasons for the absence of foreign firms in Italy.

* First, many large public contracts are let on the basis of political favour to local contractors.

* Secondly, family-owned Italian companies are both protectionist and nationalist and can be difficult to do business with.

Italy requires expertise in nuclear engineering, railway construction, urban renewal and high class house building and renovation. Historic centres are being revamped, old palaces are being transformed and factories converted.

The expected growth in demand for energy in Italy underlines the importance of the national energy programme to increase capacity with new nuclear power stations, coal fired power stations, increased hydroelectric plant and the development of renewable sources.

German contractors have successfully expanded into Italy in the past four years, the only country to do so on such a scale, and won significant autostrada and dam contracts.

The Italian market can be penetrated successfully by powerful firms. Competitiveness must always be based on a strong innovative capability, since the technological standard of Italian firms is often highly comparable to other international firms.

Therefore, Italy is a wealthy, sophisticated nation, undergoing a process of innovation and entrepreneurialism assisted by an international outlook and a skilled domestic market. However, certain factors restrict the home market, including high interest rates, political instability, public sector inefficiency and the presence of corruption and unfair contracts. Further, the significant north/south differential serves to distract from commercial strength and efficiency.

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8.8 SUMMARY: HOME AND HOST NATIONS.

The detailed assessment of the socio-economic and construction industry configurations, for each of the home and host nations, has revealed unique aspects of differentiation and attributes of competitive advantage.

Each of the home nations is recognised as economically mature. However, Germany is seen to possess greater aspects of competitive advantage than competitor nations. This primarily stems from a strong industrial base, education, innovation and financial strengths. German contractors generally seek to specialise within construction market sectors and are supported by these attributes.

French contractors also benefit through characteristics of their domestic market, notably protectionism and government support. Inter and intra market diversity are very common amongst large French contractors. This structure has encouraged internationalisation, although it is apparent that French contractors have generally fewer aspects of competitive advantage than German companies.

The UK has a relatively poor competitive profile. The domestic market is highly competitive and difficult, contractors have undertaken inter and intra industry diversity and traditional overseas markets also have unfavourable economic conditions.

However, although each of the home nations is clearly distinct, these nations are competitors and in international terms are comparable.

The host nations are also distinct, most obviously having a progressive economic maturity.

Portugal has recently initiated a period of significant infrastructure development, assisted by considerable funding

provisions. Portugal has many areas of opportunity and is keen for foreign companies to undertake development work.

Spain also has many areas of potential opportunity, however, the market is highly competitive due to its earlier integration with international trade and its moderate economic maturity encouraging incoming companies.

Italy is the most economically developed of the host nations. Despite regional imbalances the country is sophisticated and technologically advanced. Further, certain barriers to entry exist which must be mitigated through competitive advantage for worthwhile commercial involvement.

This framework of secondary data will act to verify and justify information developed through empirical research using the adapted Porter model of competitive advantage, which will be developed within Chapter 9, while additionally exposing anomalies.

How home nations consider their national competitive profile and hence advantages and how this is applied within the host nations will be relatively compared and analysed. From this comparative assessment, the international profile can be formulated for each home nation. This will then assist reasoning of 'how, why, where and when' to undertake competitive internationalisation.

CHAPTER NINE. PART ONE.

EMPIRICAL ANALYSIS OF NATIONS.

9.1 Introduction.

The Porter 'national diamond' framework forms the prime basis for this research (1). The model is divided within this research analysis into two broad sectors: national aspects and locational aspects.

The nations selected for this research were identified within Chapter 5. The home nations are the UK, France and Germany, while host location nations are Portugal, Spain and Italy.

Major construction companies from each of the three home nations were approached with a questionnaire, which is the basis of this empirical research.

These companies had generally all provided information during the development of the overall research project, in the form of interviews with senior executives or as secondary, corporate information. This framework of information will assist verification and justification for expressed empirical data and analysis as identified in Chapter 5.

A time elapse of some four weeks between dispatch of the questionnaire and data collation was allowed, with no further requests made. The response rate is noted below in Table 9.1:

Table 9.1.

Survey Responses: Company.

Country:	United Kingdom.	Germany.	France.
Number of companies responding:	10	6	6
Number of companies declining to respond:	2	2	1
Number of companies not responding:	4	2	3
Number of questionnaires dispatched:	16	10	10

The results of the completed questionnaires are examined (the data responses are within Appendix 2, 3, 4), for each of the three home nations.

Each nation's range of 'Company Factors' - those aspects which are of a prime influence upon the national characteristics of the company, are individually examined and later relatively compared with other home nation's results.

The second section of this Chapter focuses on to Locational assessment within the host nations. Results from the questionnaire are again examined from each home nation, then relatively compared with the results of other home nations examined.

In each case the procedures of questionnaire assessment and handling are explained within section 5.4.6 of Chapter 5.

9.2 United Kingdom: Empirical Analysis of Company Factors.

The results of the UK contractor's returned questionnaires for 'Company Factors' are shown below, producing a ranked sequence of importance in accordance with the methods described within section 5.4.6 of Chapter 5, the most important considerations are listed first.

Table 9.2. Empirical Results: Summary.

United Kingdom. Ranking of Company Factors:(Abridged heading).

Rank:	Factor:	Results Value; Average.
= 1.	Domestic Market Size:	6.3
= 1.	Company Reputation:	6.3
= 1.	Government Policy:	6.3
4.	Domestic Developments:	6.1
5.	Existing Competition:	6.0
= 6.	Market Sectors:	5.3
= 6.	Specialist Labour:	5.3
= 8.	Client Relationship:	5.2
= 8.	Skilled Labour:	5.2
= 8.	New Competition:	5.2
11.	National Prestige Overseas:	5.1
12.	Management Supply:	5.0
=13.	Semi-Skilled Labour:	4.5
=13.	EEC Policy:	4.5
15.	Financial Support:	4.4
=16	Unskilled Labour:	4.3
=16.	Project Financing:	4.3
18.	International Consultants:	3.8
19.	Research and Development:	3.0
20.	Additional Regulations:	2.7
=21.	Client Internationalisation:	1.4
=21.	Client Innovation:	1.4

Special Skills Demanded: Overall Equal.
Chance Events Effect: Overall No.
National Currency Benefits: Overall No.
Source: Fieldwork.

Questionnaire Assessment: UK.

The following review is an examination of the answers obtained from the questionnaire, as ranked within Table 9.2. The actual results of the returned questionnaires for the UK contractors are within Appendix 4.

Three aspects were rated as most important within the survey; domestic market size, company reputation and Government policy.

- Domestic market size has a variety of beneficial features, offering the capacity to support large companies, with a wide range of activities and technical applications, reflecting industry development which generally relates to fairer competition. Hence a larger market place offers greater potential to develop.

Company reputation is particularly important within mature markets such as the UK. Reputation acts as a prime source of product differentiation - embodied within the name of the firm, which represents the nature and quality of the service offered. Due to the range of variables, notably human resources, which may influence a construction project, a good reputation is most important for securing work.

The domestic policy of the British government is deemed to be an important influence to construction, closely relating to the relatively poor recent progress of the companies questioned. The UK is currently in a recession which is generally regarded as being causal to central government policy. Therefore government policy is an important consideration for contractors since this aspect has had a significant impact on their commercial environment.

- However, unlike central domestic government policy the policy of the EEC was not considered particularly important, despite the progressive development of the '1992' programme for

a more integrated Europe and the distribution of EEC development funds, which may influence construction activity.

Domestic economic developments were also rated as highly important to the contractor's assessment of their domestic influences. Economic developments relate to government policy, and are a crucial aspect for consideration. The difficult trading environment within the UK was also confirmed by the assessment of the threat posed by existing competition. However, new competition was rated as less important than the threat of existing competitors.

Wide variation of market sectors enhances the scope for diversity and risk dispersion, or to seek specialisation where appropriate. This was considered an important aspect for the UK contractors. Within a recessionary environment not all market sectors will decline to the same extent, some may actually grow. Further when growth does return, market sectors will develop at different rates. The capacity to seek opportunity from a wide variation of market sectors, enabling switching of resources to more viable trading areas, is important to UK contractors.

The national supply of specialist skilled labour and specialist sub-contractors was generally considered to be acceptable to the contractors. However, the suitability of other forms of labour was less favourable. Therefore semi-skilled and unskilled labour was rated as unsuitable, while the suitability of management staff was rated as only just above an acceptable level of suitability.

The attributes of national prestige with particular regard to gaining work within the international environment was generally rated highly. However, the whole process of internationalisation was rated as less significant than the value of the domestic market to UK contractors. Further, home based, UK, consultants working internationally were not

considered to be a particularly important method of gaining work abroad.

The level of support which financial institutions made available to the contractors was considered to be of below average suitability. Further, project financing was also rated as generally unsuitable to the needs of the contractors. An additional aspect of finance was that UK contractors appeared to gained no benefit to assist with internationalisation by the nature of their national currency.

Research and Development (R & D) was considered to be only moderately important to the contractors and while clients were rated as generally innovative, this was not particularly significant to contractor's development. Further, less than half of the contractors had developed internationally demanded specialist skills. Those companies which had done so were mainly within the civil engineering sector.

Some of the contractors recognised a particular 'chance' event as the current domestic economic recession. This has had a significant impact on the progress of the economy and the construction industry specifically.

9.3 Germany: Empirical Analysis of Company Factors.

Ten German companies were approached to take part within the survey, six of whom responded with usable results. The assessment below follows that outlined within section 5.4.6 of Chapter 5, again listing the most important aspects first.

Table. 9.3 Empirical Results: Summary.

Germany. Ranked Factors: (Abridged heading).

Rank:	Factor:	Results Value: Average.
1.	Company Reputation:	6.8
= 2.	Client Relationship:	6.7
= 2.	Specialist Labour:	6.7
4.	Skilled Labour:	6.5
= 5.	National Prestige Overseas:	6.3
= 5.	Domestic Market Size:	6.3
7.	Financial Support:	6.0
= 8.	Semi-Skilled Labour:	5.8
= 8.	Existing Competition:	5.8
10.	Project Financing:	5.2
11.	Management Supply:	4.8
=12.	Market Sectors:	4.5
=12.	Domestic Developments:	4.5
14.	Government Policy:	3.7
15.	Research and Development:	3.2
16.	EEC Policy:	3.0
17.	Client Internationalisation:	2.8
18.	Unskilled Labour:	2.7
=19.	New Competition:	2.3
=19.	International Consultants:	2.3
21.	Additional Regulations:	2.2
22.	Client Innovation:	1.0

Special Skills Demanded: Generally No.
Chance Events Effects: Overall Yes.
National Currency Benefits: Overall Yes.

Source: Fieldwork.

The actual questionnaire results of the German contractors are within Appendix 2.

The most important consideration for German contractors is the standard of their company reputation which encapsulates the skills and characteristics of the company. Commercial relationships with clients were similarly rated as being very important to the progress of the contractor. Both these aspects benefited from the large domestic market size of the German construction industry and the relatively close association which contractors have with financial institutions. This last aspect was recognised as an advantage by the contractors who were able to gain longer term financial support and more favourable funding terms than competitors.

The strength of the German national currency assisted potential internationalisation through its strength. However, existing client internationalisation, which was not particularly significant to the contractors, was not generally influenced through this attribute. Further, internationalisation was not notably assisted through the role and actions of international German consultants.

The competitive forces present within the existing domestic environment were considered to be a significant threat to the progress of contractors. This was notably in excess of the potential competitive forces which were assumed to exist in the threat of new competitors.

Recent economic developments, mainly focussing on to the act of reunification, are identified as an important 'chance' event. The influence of this event was more significant than the policy of the government or of the EEC, reflecting stability.

Specialist labour and skilled labour supply within Germany are considered highly suitable by the contractors. However, unskilled labour is rated as generally unsuitable, while the

supply of management staff is rated at only just acceptable to the needs of the contractors.

R & D was moderately important within the construction market, reflecting the innovative methods of certain contractors. However, the levels and influence of client innovation is not considered particularly important to the contractors. Further, generally no special skills were formulated or identified by the contractors to enhance their position with regards to overseas demand.

Company reputation and client association are therefore important factors within the domestic industry assisted by a large, stable, market and suitable financial relations. Competition is however strong within the domestic market, mainly in the form of existing competitors.

9.4 France: Empirical Analysis of Company Factors.

Ten French companies were approached to take part within the survey, six of whom responded with usable results. The data from these companies is summarized in Table 9.4, in accordance with the methods outlined within section 5.4.6 of Chapter 5. The actual results are within Appendix 3.

The domestic trading aspects of the French construction industry's commercial market are considered to be most important. These aspects include contractor's reputation, the level of client relationships, domestic market size and the range of market sectors. Further, each of the four forms of labour which are relevant to contractors: specialist skilled, skilled, semi-skilled and unskilled, were all considered to be suitable. These forms of labour also notably exceeded the suitability of the supply of management staff to the construction industry. However, the supply of finance to the industry and the availability of project finance was not

recognised as particularly suitable to the needs of the contractors.

The broader aspects of the French domestic environment were next most significant to the contractors. This incorporated recent domestic economic developments and the policy of the French government.

Table. 9.4 Empirical Results. Summary.

France. Ranked Factors: (Abridged heading).

Rank:	Factor:	Results Value: Average.
= 1.	Company Reputation:	6.2
= 1.	Client Relationship:	6.2
= 1.	Domestic Market Size:	6.2
= 1.	Specialist Labour:	6.2
= 1.	Skilled Labour:	6.2
= 6.	Semi-Skilled Labour:	6.0
= 6.	Unskilled Labour:	6.0
= 8.	Management Supply:	5.8
= 8.	Market Sectors:	5.8
10.	Domestic Developments:	5.5
=11.	International Consultants:	5.3
=11.	Project Financing:	5.3
=13.	Financial Support:	5.2
=13.	Government Policy:	5.2
=13.	National Prestige Overseas:	5.2
16.	Existing Competition:	4.7
17.	Research and Development:	4.0
=18.	EEC Policy:	3.3
=18.	Client Internationalisation:	3.3
20.	Client Innovation:	3.0
21.	New Competition:	2.8
22.	Additional Regulations:	1.3

Special Skills Demanded: Generally Yes.

Chance Events Effect: Overall No.

National Currency Benefits: Overall No.

Source: Fieldwork.

However, unlike domestic government policy, the activities and measures of the EEC were not considered to be particularly important to the progress and development of contractors.

The French domestic construction industry is not particularly threatened by existing competition which was considered to be only just above average importance as a threat. Further, the threat due to new competition is even less significant. This reflects the relatively protected nature of the market.

French contractor's internationalisation was assisted by national prestige, international French consultants who sought synergy through French contractor involvement and the use of special, internationally applicable, construction skills. These skills generally focussed within the civil engineering sector of the industry. However, existing clients are not considered to be a prime source of internationalisation for French contractors.

Construction R & D and the level of innovation undertaken or demanded by clients was not considered particularly important, nor was the need for additional regulations within the market.

French contractors, therefore, emphasise the value of the domestic market through their reputation, client relations, market size and labour skills in addition to the aspects of a generally protected market. Internationally, however, despite certain beneficial characteristics such as integration with French consultants and developed special skills, only half of the respondents generally undertook non-domestic production.

9.5 Assessment of National Configurations.

The results of each nation's assessment of their 'Company Factors' are distinct. This is represented within the Table 9.5 which was introduced and explained within section 5.4.6 of Chapter 5. This shows each nation's relative profile.

Table. 9.5. National Comparisons.

Comparison of Ranked Factors: Deviation from Average Ranking.

Factor:	UK.	Germany.	France.	Average.
Company Reputation:	0.0|1	0.0|2	0.0|3	1.0
Domestic Market Size:	-1.3|1.5	+2.7|3	-1.3|1.5	2.3
Specialist Labour:	+3.0|3	-1.0|2	-2.0|1	3.0
Client Relationship:	+5.7|3	-1.7|2	-2.7|1	3.7
Skilled Labour:	+3.7|3	-0.3|2	-3.3|1	4.3
Domestic Developments:	-4.7|1	+3.3|3	+1.3|2	8.7
Market Sectors:	-2.7|1	+3.3|3	-0.7|2	8.7
Semi-Skilled Labour:	+4.0|3	-1.0|2	-3.0|1	9.0
Government Policy:	-8.3|1	+4.7|3	+3.7|2	9.3
National Prestige Overseas:	+1.3|2	-4.7|1	+3.3|3	9.7
Existing Competition:	-4.7|1	-1.7|2	+6.3|3	9.7
Management Supply:	+1.7|3	+0.7|2	-2.3|1	10.3
Financial Support:	+3.3|3	-4.7|1	+1.3|2	11.7
Project Financing:	+3.7|3	-2.3|1	-1.3|2	12.3
Unskilled Labour:	+3.3|2	+4.7|3	-7.3|1	13.3
EEC Policy:	-2.7|1	+0.3|2	+2.3|3	15.7
New Competition:	-8.0|1	+3.0|2	+5.0|3	16.0
International Consultants:	+2.0|2	+3.0|3	-5.0|1	16.0
Research and Development:	+2.0|3	-2.0|1	0.0|2	17.0
Client Internationalisation:	+2.0|3	-2.0|1	0.0|2	19.0
Additional Regulations:	-1.0|1	0.0|2	+1.0|3	21.0
Client Innovation:	0.0|2	+1.0|3	-1.0|1	21.0
Special Skills Demanded:	Equal.	No	Yes	
Chance Events Effect:	No.	Yes	No	
National Currency Benefits:	No.	Yes	No	
Sum of Rank Place:	45.5	46	40.5	

Source. Fieldwork.

Table 9.5 was explained within section 5.4.6. The table shows the relative value of each national aspect for each home nation in relation to the average of all home nations. Hence deviation is from the average. A positive valuing meaning that the aspect was less important than the average since this increases its rank position, a negative value meaning it was more important than the average. The actual magnitude of the value representing the significance of the deviation. In cases where zero is shown, the national value corresponds to the average of all three nations. This table therefore allows deviation from competitors to be seen and trends developed.

Table 9.5 data is also ranked for analysis as described within section 5.4.6.

Using the Friedman two-way analysis of variation by ranks, as section 5.4.6, the following assessments are undertaken.

Using all quantifiable data from Table 9.5 produces:

$$M = \frac{12}{22*3(3+1)} (2070.25 + 2116 + 1640.25) - 3*22(3+1)$$

$$M = 0.84.$$

From statistical tables this is not significant at P = 0.10, hence the hypothesis of no difference between nations cannot be rejected. This confirms their competitor status. However, it was seen within Chapter 8 that each test nation has relatively distinguishing characteristics. These may be analysed.

Hence, using the data from Table 9.5 for Labour aspects for example, which incorporates; Specialist Labour, Skilled Labour, Semi-Skilled Labour, Management Supply and Unskilled Labour, produces the following results,

$$M = \frac{12}{5*3(3+1)} (196 + 121 + 25) - 3*5(3+1)$$

$$M = 8.4.$$

This is significant at P = 0.025 and hence the hypothesis of no difference is rejected for Labour aspects.

Aspects of Demand, incorporating; Domestic Market Size, Domestic Developments, Market Sectors, Existing Competition, New Competition has the following analysis:

$$M = \frac{12}{5*3(3+1)} (30.25 + 169 + 132.25) - 3*5(3+1)$$

$$M = 6.3.$$

This is significant at P = 0.10 level and hence variation exists amongst aspects of Demand for the test nations.

From the application of Friedman's two-way F-test analysis it is seen that the selected test nations have general competitor status. However, aspects within these nations vary in addition to the above examples. It is the nature and influence of these differences which is examined. This is undertaken through relative assessment of the Porter framework's components, which is the prime framework of analysis.

Therefore, this information will be assessed within the Porter 'national diamond' structure for relative competitive configurations, which was shown in Figure 2.1 within Chapter 2, starting with 'Factor Conditions'.

9.5.1 Factor Conditions.

Factor conditions, or factors of production, as noted within Chapter 4 are the basic inputs available within a nation and are assessed within their main groups of assessment, incorporating basic and advanced distinctions as appropriate.

Human Resources:

The basic level of labour supply encompasses unskilled and semi-skilled labour. An assessment of the suitability of the national supply of unskilled labour revealed that only French

contractors considered their supply to be of a relatively suitable standard. Both UK and German contractors supply of this form of labour is relatively unsuitable. However, with regards to semi-skilled labour, while the UK again had a low suitability rating, the German assessment was enhanced and comparable to the higher French grading.

At the advanced level of human resources, which includes skilled and specialist labour, Germany and France again had comparable assessments, with these features being regarded as relatively highly suitable. However, again the UK companies supply of advanced labour was relatively lower in terms of suitability.

A second advanced level category incorporates management staff. Yet again French contractors showed their supply to be suitable while the assessment from the UK revealed relative unsuitability.

Physical Resources:

Within Chapter 8 the geophysical features of each of the test nations were examined, revealing only limited areas for competitive differentiation. Within the empirical survey no contractor sought to apply such attributes for significant competitive gain.

Knowledge Resources:

The stock of scientific, technical and market knowledge stems from innovation and experience. However, from this empirical assessment, research and development was generally regarded as unimportant within each of the home nations, although it was rated slightly higher amongst German companies.

The level of client innovation was also generally regarded as low, with French clients demanding most. However, the slightly enhanced level of company R & D undertaken by German contractors may serve to predict and hence preempt such demand.

Capital Resources:

Access to and the cost of capital to finance the industry is highly variable. There are strong influences on project success through the terms and conditions applied to capital supply. Only German contractors rated their general support by financial institutions as highly suitable, assisted by their close integration with financial institutions which offers the benefit of capital access and security. French contractors rated financial support at average suitability, while UK firms considered such financial support to be generally unsuitable.

These financial aspects further relate to the conditions of project finance. This was again more favourable within Germany and France than within the UK, correlating to the general financial trend.

Infrastructure:

The features of national infrastructure incorporate transportation, communications, health and associated services. These aspects influence the quality and nature of the general environment. However, the home nations were not significantly distinguished through such aspects.

9.5.2 Domestic Demand Conditions.

The second aspect of the Porter 'national diamond' assessed is the area of domestic demand conditions. This again has various components, including:

* Size of home demand:

A large domestic demand encourages and is causal to production economies, specialisation and investment. Each of the home nations rated domestic market size as important. However, this was less significant within Germany, whose recent reunification appears to offer the benefits of an enlarged and

available market, with a potential shift to within the wider Europe.

* Domestic demand growth rates.

The rate of domestic demand growth varied between each nation, principally through the influence of general economic trends. Both France and Germany attached only moderate importance to demand growth conditions. However, UK companies attached considerable importance to conditions influencing growth rates. This correlates to the large down-turn in demand experienced within the UK.

* Sophisticated and Demanding Buyers.

All three nations were of a mature economic structure. This will tend to focus innovation within particular areas of development, however overall client innovation is shown to be generally low, although as noted German contractors R & D may serve to preempt client demand.

* Segmented Demand Structure and the Number of Independent Buyers.

Each contractor undertook work within various construction industry sectors. This diversity was particularly notable amongst UK and French companies when compared to the spread of activity undertaken by German contractors, which was less. German contractors tend to specialise within certain industry sectors.

* Domestic influences on foreign markets.

National attributes which influence foreign markets take various forms, including the prime aspect of national prestige for gaining work internationally. Prestige was highly rated by German contractors through aspects of quality and technical capacity, although this may also command a higher price. However, French and UK contractors considered the value of their national prestige to be only of moderate importance.

National currency can also act as an influence within the international environment. however, only German contractors considered that their national currency offered competitive influence, relating to the 'strength' of the currency and its economic stability.

* Mobile or Multinational Buyers.

The progressive internationalisation of clients enables contractors to enter the international environment under conditions of reduced risk through previous association. However, client internationalisation as an aspect in the progress of the contractors was generally unimportant. German and French contractors found modest benefit through this 'following' relationship, while UK contractors considered the importance of such association to be relatively very low.

9.5.3 Related and Supporting Industries.

Domestic organisations which provide inputs into a company's operation may also provide an opportunity to gain competitive advantage through coordination and integration of activities.

The general support of financial institutions, as previously noted, revealed that German contractors are generally very favourably associated, French contractors less so, while UK contractors had less than suitable levels of financial support.

Consultants working internationally may favour home based contractors through national association, with contractual and technological relations already existing. However, only French contractors appeared to competitively trade on this relationship, compared to UK and German contractors. This was confirmed through the work of Seymour (2) who revealed that French consultants appeared to adopt a coordinated policy of overseas expansion with French contractors.

Complementary industry opportunities are associated with a large market and wide diversity. French and UK contractors

consider these aspects relatively important to progress, through diversity, while German contractors appear to seek specialisation.

9.5.4. Firm Strategy, Structure and Rivalry.

This element of the Porter 'national diamond' forms the framework within which companies compete, operate and structure themselves in dynamically variable competitive situations, which are influenced by national circumstance. Many aspects influence this structure, generally categorised as: national, industry and company levels.

At the national level, prestige is a prime influence. Germany emphasised its national prestige which encompasses product quality and skills aptitude for competitive advantage.

National socio-cultural aspects further influence the development of the company. Training and education is reflected in the suitability of skilled, specialist and management staff which are relatively emphasised within France as an advantage, while R & D and innovation are less important to the home nations.

The industry level incorporates demand and supply sources.

Client relationships are rated as relatively more favourable and hence important to demand for German and French contractors than for UK organisations.

Supply source bargaining powers typically decrease with increasing competition, which is a relatively greater issue within the UK. This has served to influence market opportunity and competitive rivalry.

The competitive forces relate to both existing and new competitors, in addition to the influence of suppliers and buyers. Existing competition as a threat to company progress is relatively lower within the French market than the UK or German

markets. The UK in particular is experiencing considerable competitive threats through its existing competitor formation.

At the company level, competitive success relates to company characteristics, including organisation and operation's methods. These features influence the company's reputation and their relationship to industry demand through diversity, commercial relationships and skills.

Reputation, the embodiment of corporate attributes, is important in obtaining work, and was seen to be notably relatively higher amongst German and French contractors than amongst those of the UK.

9.5.5 Chance.

There are numerous methods by which chance may exist, for example; invention, technological shift, cost discontinuity, product supply, demand alterations, financial factors, political variations and war.

Germany identified itself as subject to a recent positive chance event: reunification, while some UK contractors identified the influence of the current domestic recession as a chance factor, this being a negative influence.

9.5.6 The Role of Government.

Government exerts influence upon all aspects of the nation's characteristics. Prime features are:

Education and Training.

Education and training may be represented by the suitability of skilled labour and management. Amongst the home nations, France has the most highly relatively rated skilled labour and management, followed by Germany and the UK. This aspect will, however, be influenced by other variables, such as perceived industry attraction for incoming staff.

Infrastructure spending.

Public spending on construction developments offers a direct influence into the construction industry. Certain nations have adopted a policy of shifting towards private sector finance, hence account must be taken of the contribution which this sector now offers.

French and German contractors consider public infrastructure spending to be relatively unimportant as a condition influencing their demand profiles, compared with UK companies who are markedly affected by domestic economic conditions. Within the UK, this is closely associated to the current actions of the domestic government.

Financial Policy.

The financial policy of the government encapsulates capital flow and fiscal strategies. This is again considered relatively unimportant by French and German contractors while UK contractors regard this aspect as very important, due to its close integration with the downturn of the domestic market.

9.6 SUMMARY.

The survey has applied the Porter framework of competitive advantage to express relative national differences and characteristics that are of importance to the construction industry. This is within a regulated and controlled framework. This will form the basis of locational analysis and assessment, which may be relatively compared, both by location and competitor, which would not be feasible without such a structure.

This information is further generally validated by the collected secondary analysis.

The questionnaires results will be structured into a 'national diamond' configuration for each home nation to act as a basis of locational assessment.

9.6.1 GERMANY.

The integrated aspects of the Porter 'national diamond' is shown below to demonstrate the prime aspects of relative competitive German differentiation.

Figure. 9.1. **National Diamond: Germany.**

Related and Supporting Industries.
[Good Financial Relations]

Factor Conditions.
[Good Skilled & Specialist Labour]
[Favourable Finance, National Currency]

Demand Conditions.
[High National Prestige]

Firm Strategy, Structure and Rivalry.
[Favourable Prestige, Reputation]
[Good Financial Support]

Government.

Chance.
[Recent Reunification]

Source: Porter (1990). Fieldwork.

Germany has a range of outstanding positive attributes, focussing principally on; finance, prestige (as competitive defence) and skilled staff.

The prime distinguishing factors determined as being of relative importance to the German contractors are therefore:

* - National prestige is very important.

* - National currency offers an advantage to the company.

* - The suitability of general financial support is high.

* - The suitability of project financing is good.

* - The suitability of unskilled labour is low.

* - The importance of R & D is moderate and may be used to preempt the market.

* - Recent chance events will have an impact on progress.

9.6.2 FRANCE.

The prime distinguishing characteristics of French contractors are:

* - The relatively moderate threat of existing competition within the domestic contracting market.

* - The low threat of new competition within the domestic contracting market.

* - The relatively high suitability of the national supply of human resources to construction.

* - The relative importance of home based consultants and their association to contractors to assist internationalisation.

The aspects of the Porter 'national diamond' are related below to express their association to the prime distinguishing characteristics of the French contractors.

Figure. 9.2.

National Diamond: France.

Related and Supporting Industries.
[Good International Consultants Relations]
[Strong Inter and Intra Industry Diversity]

Factor Conditions.
[Favourable Skilled & Specialist Labour]
[Favourable Management Supply]

Demand Conditions.
[Strong Inter and Intra Industry Diversity]

Firm Strategy, Structure and Rivalry.
[Favourable Human Resources]
[Limited Competitive Market Forces]

Government.

Chance.

Source: Porter (1990). Fieldwork.

French contractors have a relatively protected home market and have a generally favourable supply of human resources, while international French consultants have assisted contractors undertake non-domestic production.

9.6.3 UNITED KINGDOM.

The integrated aspects of the Porter 'national diamond' may be related below to demonstrate the prime aspects of relative differentiation within the UK.

Figure. 9.3. National Diamond: United Kingdom.

Related and Supporting Industries.
[Strong Inter and Intra Industry Diversity]

Factor Conditions.
[Unfavourable Human Resources]
[Unfavourable Finance]

Demand Conditions.
[Strong Inter and Intra Industry Diversity]
[Limited Internationalist Clients]
[Unfavourable Domestic Demand Growth]

Firm Strategy, Structure and Rivalry.
[Unfavourable Client Relationships]
[Relatively High Competition/ Rivalry]
[Unfavourable Finance]

Government.
[Limited Finance/Investment]

Chance.
[Recession]

Source: Porter (1990). Fieldwork.

The UK is mainly influenced by low demand for economically viable projects, unfavourable financial relations, limited government assistance and a relatively unsuitable supply of human resources. Strong inter and intra industry diversity has

dispersed some construction concentration, but competition is generally intense and client relationships relatively low.

UK contractors are however, focussing on to their home market in an attempt to preserve their domestic base from other similarly exposed UK contractors and non-UK competitors (who have different competitive advantage profiles) while awaiting an up-turn in market conditions. This is rather than general internationalism, which is not emphasised since the UK's international competitive advantage profile is not (as will not noted later) relatively favourable, domestic market uncertainties are consuming resources in an attempt to preserve some opportunities and UK contractors recent history of internationalisation has a varied track record of risks and exposures to unfavourable markets.

Therefore, there are a variety of distinguishing aspects relevant to the competitive domestic profile of the UK.

* - Recent domestic economic developments have had a significant, negative, impact on the progress of most UK contractors.

* - Government's domestic policy is regarded as causal to this poor condition.

* - Existing domestic competitive intensity is strong.

* - New, potential, domestic competition is relatively strong.

* - General financial support to contractors is relatively unsuitable.

* - Project financing for the companies is relatively unfavourable.

* - The support and trading relations with clients is relatively unfavourable.

* - The value of client internationalisation is relatively very low.

* - The suitability of many sectors of contractor's human resources supply is relatively low.

* - The value of inter and intra industry diversity is relatively important to UK contractors.

These national competitive advantage profiles will now be applied to a series of specific host locations to determine the influence of internationalisation. Relative comparison of international competitive advantage will therefore be sought.

CHAPTER NINE. PART TWO.

EMPIRICAL ANALYSIS OF LOCATIONS.

9.7. Introduction.

Within the the previous part of this Chapter, it was shown that each of the home nations has a different range of aspects of competitive advantage which comprise their 'national diamond' configuration. This second part of the Chapter will apply these configurations to the international market, through specific application to three host locations. The locations were selected, as detailed within Chapter 5, to allow different characteristics to be considered.

This will;

* allow the structured application of national competitive advantage profile to the international market.

* allow application to locations which are economically distinguished and recognised as being at different stages of national economic development, to show the affects of such characteristics.

* allow relative comparison of the international profile of each home nation and its specific application to expose prime areas of difference compared to competitors.

* allow assessment and rating of the prime locational influences considered by home based contractors considering undertaking internationalisation.

The responses by home nation contractors to this part of the questionnaire were not fully complete for all companies since certain firms considered they could not offer a valid opinion, due to lack of experience of certain markets. The distribution is therefore:

Table. 9.6. Survey Responses: Locations.

	UK	Germany	France.
No of Responses:	10	6	6
For Portugal:	9	6	6
For Spain:	10	6	6
For Italy:	8	6	6

The following data summarizes questionnaire responses from each home nation in turn. This information is then relatively compared to assess the national competitive advantage profile application of the home nations both generally and within various, specific, international markets.

9.8 German Contractors; Location Assessment.

The locational consideration of German contractors, as contained within Appendix 2, is examined below to express certain trends which will be used within a relative comparison of other home nation's assessments.

The Italian market is recognised by German contractors as a large and developing area of opportunity with a better than average supply of all grades of human resources, with the exception of available local management - although this is limited by the use of imported German staff. Further, there is a fairly high level of both domestic and international consultancy activity within this market. Structural economic maturity of the Italian market is related by the Germans through the high consideration applied to the strength of local competition and the need to emphasise competitive characteristics of the incoming firm. These particularly take the form of project management skills and reputation of the company. The threat of other contractors in international competition is also highly considered and is again related to the level of market maturity within Italy.

There is a reasonable degree of cultural affinity between Germany and Italy, expressed through relations at the host government to government and host government to home firm level. However, Italian client attitudes to the home, German, nation and the company are considered less important.

The Spanish market is considered to be economically and politically stable. This market is also recognised as highly competitive in all industry market sectors. Within Spain, the main methods of competitive advantage for German contractors stems from their company characteristics. This is in particular through their projects management skills, company reputation and technical superiority, but tender price is not so significant as

a form of differentiation. The Spanish market is also recognised as large and well served by consultants.

However, government relations between Germany and Spain are not particularly favourable, as seen through generally unfavourable host to home government attitudes. But, host nation's client attitudes to German companies is considered to be favourable.

The Portuguese market is considered to be less competitively intense than the Spanish or Italian markets. This is particularly in terms of the level of German competitors. The Portuguese market is seen as small and despite market growth prospects, it is considered to be restricted by limited local labour availability. Host to home government level attitudes and the relationship achieved between clients to contractors is not considered to be a particular advantage.

The broader conditions of corporate and personal tax levels and the level of language compatibility are not considered to be particularly significant issues influencing German contractors considering the Portuguese construction market.

German contractors therefore have different assessments of each of the three locations, which relates to their perception of national characteristics and relationships.

The Italian market is seen to offer favourable relationships and is economically mature, but has unfavourable characteristics, including client attitude to German contractors.

Spain and Portugal on the other hand have host clients who consider German contractors to be relatively favourable, but these nations are recognised as having certain aspects of deficiency in terms of these characteristic relationships.

Table 9.7 summarizes the German contractors locational results in accordance with the methods described within section 5.4.6 of Chapter 5, to enable later comparative assessment.

Table. 9.7. Germany. Locational Variations. (Fieldwork).

Rank: Factors:	Location Country: Portugal	Spain	Italy	Mean
Competitive advantage of your company through its:				
Projects management.	0.0	0.0	-0.1	6.8
Strength of local competition.	-0.3	0.0	+0.3	6.5
Competitive advantage of your company through its:				
Technical superiority.	+0.2	-0.1	-0.1	6.3
Reputation.	-0.3	+0.1	+0.1	6.1
Strength of foreign competition.	-0.1	+0.8	-0.6	5.9
Cost of project staff:				
from your home country.	-0.8	+0.6	+0.2	5.6
Market growth prospects.	0.0	-0.1	+0.2	5.3
Strength of own nation competition.	-1.2	+1.8	-0.7	5.0
Presence of non-tariff barriers.	+0.1	0.0	0.0	4.7
Size of the market.	-1.7	+0.8	+0.8	4.4
Political stability.	-0.4	+0.3	+0.1	4.4
Economic stability.	-0.2	+0.4	-0.2	4.4
Host Government attitude:				
to your Nation.	-0.2	-0.1	+0.3	4.4
Access to suitable local labour:				
Specialist skilled labour.	-0.4	0.0	+0.5	4.2
Client attitude:				
to your Nation.	+0.4	+0.1	-0.6	4.1
Distance from your Head Office.	+0.2	+0.6	-0.8	4.1
Competitive advantage of your company through its:				
Tender price.	+0.1	-0.8	+0.7	4.1
Staff travelling costs to location.	+0.6	+0.7	-1.3	4.1
Host Government attitude:				
to your Firm.	0.0	-0.3	+0.3	4.0
Corporate tax levels.	-0.6	+0.3	+0.3	3.9
National historical relations.	-0.1	-0.6	+0.6	3.9
Client attitude:				
to your Firm.	+0.4	+0.7	-1.0	3.8
Access to suitable local labour:				
Operative labour.	-0.1	-0.3	+0.4	3.8
Consultancy services availability:				
from international companies.	-1.8	+0.9	+0.9	3.8
from local companies.	-1.0	+0.3	+0.8	3.7
Living conditions.	+0.1	0.0	0.0	3.7
Cultural affinity.	-0.3	0.0	+0.3	3.5
Home Government attitude/support to:				
General internationalisation.	+0.2	-0.3	+0.1	3.1
Work cooperation availability.	-0.8	-0.5	+1.3	3.0
Cost of project staff:				
from the host country.	-0.4	-0.9	+1.3	2.7
Personal tax levels.	-0.7	+0.5	+0.1	2.7
Language compatibility.	-0.5	+0.5	+0.1	2.7
Home Government attitude/support to:				
your company.	-0.4	-0.6	+0.9	2.6
Access to suitable local management	+0.4	-0.1	-0.4	2.6
Company historical relations.	+0.3	0.0	-0.2	2.2

9.9 French Contractors: Locations Assessment.

French contractors considered the most important aspects to internationalisation was the host client's attitudes to their firm, in addition to their company characteristics such as reputation, technical superiority and projects management.

These aspects are generally considered to be relatively more significant to operations within Portugal, where there is also relatively greater emphasis on tender price as a source of competitive advantage. The Portuguese market was additionally considered to have relatively good relations at host to home government level. However, the Portuguese market is considered to be relatively economically immature, reflected by a shortage of specialist skilled labour, management staff and the limited strength of local competition.

Spain is considered to be not too dissimilar from Portugal, although French contractors do rate company level relations and the availability of labour within the Spanish market to be relatively better.

Italy is considered to be closer in terms of cultural affinity to France, than either Spain or Portugal. Further, the Italian construction industry is recognised as a large market within which company to client level relations are relatively important. However, government to government and government to the incoming company relations are rated as less significant.

Each location is therefore considered to be distinct by French contractors, each host country having a particular range of distinguishing characteristics.

Table 9.8 summarizes the results of the questionnaire in accordance with the methods detailed within section 5.4.6 of Chapter 5, which shows relative differentiation of consideration. Full results are within Appendix 3.

Table 9.8. France; Locational Variations.

Rank: Factors:	Location Country: Portugal	Spain	Italy	Mean
Client attitude: to your Firm.	-0.1	-0.2	+0.3	5.9
Competitive advantage of your company through its:				
Reputation.	+0.3	-0.1	-0.1	5.4
Technical superiority.	+0.1	-0.1	+0.1	5.4
Projects management.	+0.3	-0.1	-0.1	5.4
Market growth prospects.	0.0	0.0	0.0	5.2
Strength of foreign competition.	+0.3	+0.1	-0.5	5.2
Strength of own nation competition.	+0.3	+0.2	-0.5	5.0
Size of the market.	-0.2	-0.1	+0.4	4.9
Host Government attitude: to your Nation.	+0.9	-0.3	-0.5	4.8
Competitive advantage of your company through its:				
Tender price.	+0.6	-0.3	-0.3	4.6
Host Government attitude: to your Firm.	+0.1	-0.1	-0.1	4.4
Client attitude: to your Nation.	-0.5	0.0	+0.5	4.3
Company historical relations.	0.0	+0.4	-0.3	3.8
Access to suitable local labour: Specialist skilled labour.	-0.2	+0.3	-0.2	3.5
Cost of project staff: from your home country.	-0.1	+0.3	-0.1	3.4
Strength of local competition.	-0.3	-0.3	+0.5	3.3
Access to suitable local labour: Operative labour.	0.0	+0.3	-0.2	3.2
Cost of project staff: from the host country.	+0.2	-0.3	+0.2	3.1
Access to suitable local management.	-0.3	-0.5	+0.7	3.0
Work cooperation availability.	+0.1	+0.1	-0.1	2.9
Corporate tax levels.	-0.6	+0.5	0.0	2.8
Consultancy services availability: from international companies.	+0.3	-0.4	0.0	2.7
Home Government attitude/support to: your company.	+0.3	-0.4	+0.1	2.7
General internationalisation.	+0.3	0.0	-0.2	2.7
Political stability.	0.0	-0.2	+0.1	2.7
Economic stability.	+0.2	+0.1	-0.4	2.6
Consultancy services availability: from local companies.	-0.2	-0.2	+0.3	2.4
Personal tax levels.	+0.1	+0.4	-0.4	2.4
National historical relations.	+0.3	-0.1	-0.1	2.4
Cultural affinity.	-0.2	-0.4	+0.6	2.4
Living conditions.	0.0	-0.2	+0.3	2.2
Presence of non-tariff barriers.	-0.2	+0.6	-0.4	2.2
Distance from your Head Office.	-0.4	-0.1	+0.3	1.9
Staff travelling costs to location.	-0.4	+0.9	-0.4	1.9
Language compatibility.	-0.2	-0.1	+0.3	1.9

Source. Fieldwork.

9.10 United Kingdom: Locational Assessment.

UK contractors considered that economic stability was the most important aspect when assessing internationalisation.

Market growth trends were considered to be more important aspects of assessing the host nations of Portugal and Spain than Italy. However, the relationship achieved with the client was considered to be a relatively more significant aspect within Italy, while project management skills, technical superiority and reputation were also important aspects employed to seek competitive differentiation within this market. From these aspects and Table 9.9 it is apparent that the Italian market is considerably distinguished in terms of locational assessment compared to Spain and Portugal, covering many elements of the survey.

The Spanish market was considered to posses few aspects of absolute distinction. However, the importance attached to company historical relations and the relatively higher strength of home nation competition within Spain were identified.

Distinguishing aspects influencing the Portuguese market includes the low value of local competition, the relative unimportance attached to market size, but the enhanced importance related to the level of foreign competition and the level of support offered by the home government.

As with other home nations, the assessment by UK contractors shows that each host location is considered differently, through its range of characteristics. Italy is clearly distinct from Portugal and Spain, who are themselves differentiated, although to a lesser extent. This data is shown within Table 9.9, constructed in accordance with the methods described within section 5.4.6 of Chapter 5, to show the degree of differentiation relative to contractor's consideration, from an average of all three locations, within each host country.

Table. 9.9. United Kingdom. Locational Variations. (Fieldwork).

Rank: Factors:	Location Country: Portugal	Spain	Italy	Mean
Economic stability.	-0.1	-0.1	+0.1	5.9
Market growth prospects.	+0.2	+0.3	-0.4	5.8
Client attitude: to your Firm.	-0.2	-0.1	+0.3	5.8
Competitive advantage of your company through its: Projects management.	+0.3	+0.5	-0.8	5.7
Strength of local competition.	-0.5	+0.4	+0.1	5.4
Work cooperation availability.	-0.1	+0.1	+0.1	5.4
Political stability.	-1.0	+0.3	+0.7	5.4
Host Government attitude: to your Nation.	-0.1	-0.3	+0.5	5.3
Access to suitable local labour: Specialist skilled labour.	-0.2	-0.5	+0.4	5.2
Competitive advantage of your company through its: Reputation.	+0.4	+0.4	-0.9	5.2
Technical superiority.	+0.5	+0.3	-0.7	5.2
Host Government attitude: to your Firm.	-0.8	-0.1	+0.8	5.1
Access to suitable local labour: Operative labour.	-0.1	-0.4	+0.5	5.1
Competitive advantage of your company through its: Tender price.	+0.9	-0.2	-0.6	5.0
Size of the market.	-0.7	+1.0	-0.2	4.8
Strength of foreign competition.	+0.2	-0.1	-0.1	4.7
Client attitude: to your Nation.	-0.5	-0.1	+0.6	4.7
Cultural affinity.	0.0	-0.3	+0.2	4.7
Access to suitable local management	-0.2	-0.5	+0.7	4.4
Presence of non-tariff barriers.	-0.3	-0.4	+0.7	4.4
Cost of project staff: from your home country.	-0.2	-0.3	+0.6	4.4
From the host country.	-0.4	-0.3	+0.6	4.3
Consultancy services availability: from local companies.	-0.3	+0.6	-0.2	4.2
Language compatibility.	-0.3	-0.2	+0.6	4.2
Home Government attitude/support to General internationalisation.	-0.1	-0.4	+0.6	4.1
Corporate tax levels.	-0.5	+0.1	+0.5	4.1
Company historical relations.	-0.1	+0.2	-0.2	4.1
Strength of own nation competition.	-0.2	+0.4	-0.2	4.0
Home Government attitude/support to your company.	+0.2	-0.1	0.0	3.9
Consultancy services availability: from international companies.	+0.3	+0.6	-0.8	3.6
Living conditions.	+0.5	-0.1	-0.5	3.6
Personal tax levels.	-0.1	+0.1	+0.1	3.5
National historical relations.	+0.5	+0.3	-0.9	3.4
Staff travelling costs to location.	0.0	-0.7	+0.6	3.4
Distance from your Head Office.	+0.2	0.0	-0.3	2.9

Table. 9.10 All Nations: Locational Variations.

Locational Aspect:	Home Nations: Deviation from Mean. UK	Germany	France	Overall Mean
Competitive advantage of your company through its:				
Projects management.	-0.2	+0.9	-0.5	5.9
Technical superiority.	-0.5	+0.6	-0.3	5.7
Reputation.	-0.5	+0.5	-0.3	5.7
Market growth prospects.	+0.3	-0.2	-0.3	5.5
Strength of foreign competition.	-0.6	+0.6	-0.1	5.3
Client attitude:				
to your Firm.	+0.6	-1.4	+0.7	5.2
Strength of local competition.	+0.3	+1.4	-1.8	5.1
Size of the market.	+0.1	-0.3	+0.2	4.7
Strength of own nation competition.	-0.7	+0.3	+0.3	4.7
Host Government attitude:				
to your Nation.	+0.6	-0.3	-0.1	4.7
Competitive advantage of your company through its:				
Tender price.	+0.4	-0.5	0.0	4.6
Host Government attitude:				
to your Firm.	+0.6	-0.5	-0.1	4.5
Cost of project staff:				
from your home country.	-0.1	+1.1	-0.9	4.5
Client attitude:				
to your Nation.	+0.3	-0.3	-0.1	4.4
Access to suitable local labour:				
specialist skilled labour.	+0.9	-0.1	-0.8	4.3
Political stability.	+1.2	+0.2	-1.5	4.2
Economic stability.	+1.7	+0.2	-1.6	4.2
Access to suitable local labour:				
operative labour.	+1.0	-0.3	-0.9	4.1
Work cooperation availability.	+1.6	-0.8	-0.9	3.8
Presence of non-tariff barriers.	+0.6	+0.8	-1.6	3.8
Corporate tax levels.	+0.5	+0.3	-0.8	3.6
Cultural affinity.	+1.2	0.0	-1.1	3.5
Consultancy services availability:				
From international companies.	+0.1	+0.3	-0.8	3.5
from local companies.	+0.8	+0.3	-1.0	3.4
Cost of project staff:				
from the host country.	+0.9	-0.7	-0.3	3.4
Company historical relations.	+0.7	-1.2	+0.4	3.4
Home Government attitude/support to:				
General internationalisation.	+0.8	-0.2	-0.4	3.3
Access to suitable local management	+1.1	-0.7	-0.3	3.3
Living conditions.	+0.4	+0.5	-1.0	3.2
National historical relations.	+0.2	+0.7	-0.8	3.2
Home Government attitude/support to:				
your company.	+0.8	-0.5	-0.4	3.1
Staff travelling costs to location.	+0.3	+1.0	-1.2	3.1
Distance from your Head Office	-0.1	+1.1	-1.1	3.0
Language compatibility.	+1.2	-0.3	-1.1	3.0
Personal tax levels.	+0.6	-0.2	-0.5	2.9

Source. Fieldwork.

From the assessment presented within Table 9.10 it is now possible to relatively compare the results from the home nations within three broad sectors; Firm, National and Locational.

9.11.1 FIRM SPECIFIC FEATURES.

The nature of the company is the prime character aspect of the firm. This is related directly to the company's reputation which will be expressed through the competitive advantage attained amongst contributory features; project management, technical superiority and tender price.

From the survey, German companies consider these features to be relatively very important aspects of their competitive advantage with one exception, compared to the other home nations. This exception relates to tender price, which both UK and French contractors considered higher in terms of competitive gain than the German contractors.

Client relationships are another aspect of the firm. Client attitudes to the firm and the importance attached to client historical relationships are considered, by the contractors, to be the most important of these. Both France and the UK rate these feature as more important than the assessment from German contractors.

Hence each nation's particular firm specific features varied, forming the first part of the assessment of locational aspects. How national features varied will now be assessed.

9.11.2 NATIONAL SPECIFIC FEATURES.

As with specific firm features each nation will posses characteristic national features which relatively distinguish it from other home nations.

Host government attitude was considered to be the most important of these national features. The UK contractors attached significant importance to the level of support available from their government towards host governments to assist with internationalisation. This relationship assists with identifying economic stability and enhancing the prospects for success. Further, this was also seen to assist the formation of client relationships. Associated to relationship formation, UK contractors placed notable relative emphasis on seeking cultural affinity within the international environment.

There are other national level features which influence the progress of internationalisation.

The most important of these is the cost of project staff from the home nation. German contractors placed significant relative importance on this consideration, while French firms placed the aspect lower. This trend was repeated amongst the consideration attached to staff travelling costs to the location and the distance to the location from the contractor's head office. Within the assessment of language compatibility, again French contractors marked this feature as low importance, but in this case relatively high importance came from UK contractors.

Therefore German companies are aware of the importance and value of their international prestige which is supported by close contract control, hence their consideration of human resources supply.

French contractors are not so relatively well endowed with recognised international prestige as the Germans, having a different assessment of the international market's competitive

forces than that of German contractors. French contractors recognise their prime competitors as coming from the international market, ie. all foreign, including their own nation, but not particularly from the host location itself. Therefore, prime competitors of the French contractors will all face similar barriers of 'foreigness' within the location, limiting the competitive difference achieved through distance or home based staff.

Language compatibility, although principally a locational attribute is notable to the national aspects of UK contractors. The importance attached to this aspect reflects the relatively limited cosmopolitan nature and language training within the UK, this is limiting to internationalisation.

9.11.3 LOCATION SPECIFIC FEATURES.

Each of the locations assessed by the home nation's contractors are recognised as possessing a range of variable characteristics. These characteristics influence the suitability of the contractor's 'national diamond' configuration for undertaking work within each host location.

Locational characteristics may be separated into certain prime areas.

9.11.3.1 Location Features.

The most important general aspect of consideration within the location was the availability of human resources, in particular; specialist skilled labour, operative labour and management.

UK contractors considered these aspects to be of relatively greater importance than other home nations. As noted earlier, German contractors sought close contract control and placed a notable emphasis on the supply and availability of their own,

9.11 Location Assessment: Comparison.

Each home nation therefore has a different assessment of each host location.

The previous summary of each nation, above, showed how each location was considered by each home nation, revealing differences and trends. This information will now be relatively compared to show how national competitive advantages and locational considerations create the relative international profile of each of the home nations.

This relative assessment data is summarized within a ranked assessment in order of importance within Table 9.10, overleaf. This is formulated in accordance with the methods described within section 5.4.6 of Chapter 5 using the data for each home nation. This method enables information to be relatively compared and will also expose prime areas of difference from other home nations.

An example of Table 9.10's construction is;

'Competitive advantage of your company through its: Projects management' is the most important Locational consideration when the results for all three home nations are averaged, producing a mean value of 5.9. However, variation exists. Germany's original questionnaire results for all three host nations produced a higher level of importance for this aspect. This is represented as +0.9 within its column in Table 9.10, ie. 5.9 +0.9 = 6.8 which was Germany's mean assessment for this aspect to locations, seen in Table 9.7.

France and the UK have negative values, -0.5 and -0.2 respectively in Table 9.10, hence each considers this aspect to be less important than the average. This corresponds to values of 5.4 (from 5.9 -0.5) for France and 5.7 (from 5.9 -0.2) for the UK.

This Table will therefore show relative consideration of each assessed locational aspect in relation to other home nations, exposing relative variations and trends.

German, labour force to assist the preservation of their international prestige. The French also recognised that the location's supply of labour would influence incoming contractors generally equally, which the French contractors identified as their prime source of competition. However, UK contractors possess or have access to a relatively unsuitable supply of human resources, compared to that recognised from Germany and France. Hence the host location's supply of labour appears to be more important to UK firms.

Another general aspect of the location was the degree of economic stability. French contractors again recognised that their prime competitors would also experience these conditions and hence the aspect was not a significant competitive element. However, UK contractors attached a relatively high level of importance to the location's economic conditions. This appears to be a direct relation to the current UK domestic conditions and the strong influence of economic aspects which has significantly influenced UK contractors development and progress.

This pattern of relative UK importance, which may manifest itself as caution when considering locations, extended to corporate and personal tax levels, while again French contractors considered that their competitors would be similarly affected, hence attaching limited importance to these aspects.

The trend of locational assessment also included consideration of the location's living conditions, which were regarded as more important by UK contractors than by French contractors.

9.11.3.2 Locational Demand Conditions.

Locational demand conditions have various components. The most important of these to the home nations were identified as market growth prospects and the actual size of the market.

However, the home nations had different assessments of competitive forces in locations;

German contractors considered that greatest competition stemmed from the location's own contractors and other international contractors, but not those from Germany.

French contractors considered that greatest competition stemmed from the international market generally, including other French contractors, while the location's own contractors were not identified as a significant competitive threat.

UK contractors considered that greatest competition stemmed from the location's own contractors and environment, with only relatively limited competitive threat created by international, including UK, contractors.

Hence each home nation's contractors assesses competitive threats differently in accordance with their particular national configuration of competitive differentiation and advantage.

The importance of the location's demand characteristics are relatively more significant to UK contractors. Hence greater importance was placed on opportunities to undertake joint ventures and work cooperation. Further, the consideration of any barriers to entry and to trade which may be present within the market was of more importance to UK contractors than those of other home nations. This will relate to the prime source of competition recognised by internationalist UK contractors, ie. from the host location itself and also the importance attached to general locational aspects, such as economics, human resources and living conditions for example.

German contractors placed little importance on opportunities for undertaking joint ventures within host nations, although barriers to entry and to trade were considered important for locational assessment. However, French contractors placed low importance on aspects of locational demand, corresponding to their assessment of prime competitive forces stemming from

outside the location, hence being subjected equally to characteristics of the host nation.

9.11.3.3 Locations Related and Supporting Industries.

Consultants relevant to the construction industry were the prime aspect of this section.

Both UK and German contractors considered the availability of international consultants within the location to be of a similar level of importance. However, indigenous consultants were markedly more important to UK contractors than the assessment by German firms. This condition will relate to the relatively high level of assessment of locational factors undertaken by UK contractors, compared to German competitors.

French contractors considered the importance of international and indigenous consultants to be relatively unimportant, relying on their own nation consultants for competitive advantage.

9.11.3.4 Location Political Situation.

Political analysis and stability has a distribution similar to the assessment of economic aspects. Therefore, UK contractors placed relatively greater emphasis on to this aspect, German contractors identified no particular competitive advantage, while French contractors attached low importance to this consideration since, in their assessment, their prime competitors would experience similar conditions within the location.

9.12. INTERNATIONAL COMPETITIVE PROFILES.

Each home nations has a different national competitive profile, as determined within Part 1 of this Chapter. Each home nation uses its national profile to uniquely assess each of the host locations. This assessment was examined above and will now be used to construct the international competitive profile for each home nation.

This will show how 'national diamond' characteristics are employed to produce internationally competitive structures and how these structures are orientated with the location's economic situation.

9.12.1 GERMANY.

The distinguishing national competitive attributes of Germany which were assessed within Part 1 of this Chapter may be summarised as:

Factors:

Skilled and specialist labour supply,
Finance suitability,
National currency stability.

Domestic demand conditions:

Prestige of production.

Related and Supporting Industries:

Financial association.

Firm Strategy, Structure and Rivalry:

Prestige and Reputation,
Financial availability, project financing.

Chance:

Reunification.

These national characteristics are applied by German contractors in their international profile.

Within each host nation, German contractors sought to capitalise on their national prestige and reputation which was expressed through their projects managements skills and technical capacity. These skills and attributes were protected through the use of own nation staff and a limited interest in joint ventures schemes. National prestige includes the nature of the German currency which was an aspect of competitive advantage.

German contractors are not a competitive threat to other German contractors within the international market. Rather, other nation's contractors and the contractors indigenous to the location are considered as competitive threats.

Three economically distinct host locations were assessed. These were each considered differently by the German contractors, as noted earlier. The nature of this assessment produced certain trends. These relate to the pattern of assessment associated to increasing economic maturity of the host location, ie.Portugal to Spain to Italy:

First, national level relations are more important within more economically mature nations. Favourable government relations become more important.

Secondly, project costs are less important within more economically mature nations. Economically mature nations use German contractors for attributes of quality and skills, these attributes command a price premium.

The international competitive profile of Germany is shown in Figure 9.4, constructed from the assessment undertaken within both Part 1 and 2 of this Chapter. This identifies aspects of relative competitive advantage or disadvantage within the areas of the Porter framework.

Figure 9.4.

Germany: International Competitive Profile.

Aspects of Principle Relative Competitive Advantage and Disadvantage.

Related and Supporting Industries.

[Suitable Financial Relations]

Factor Conditions.

[Suitable Skilled/Specialist Labour]

[Suitable Finance, National Currency]

Demand Conditions.

[High National Prestige]

[Cautious of Foreign & Host Competitors]

Firm Strategy, Structure and Rivalry.

[High Prestige, Reputation]

[High Technical Capacity and Skills]

[High Project Staff Capability]

[Suitable Finance]

Government.

Chance.

[Reunification]

Source: Porter (1990). Fieldwork.

The German international competitive profile shows aspects of competitive advantage in most areas of the Porter framework. These have been discussed above, although one aspect will be enhanced upon here.

Reunification is deemed to be an international competitive advantage since this will allow easier direct access into the wider Europe by direct borders and allows an enhanced range of market opportunities within a relatively secure market to be sought from within the domestic market. This will therefore enable internationalisation to be more selective.

9.12.2 FRANCE.

The prime aspects of national competitive differentiation by French contractors, as determined within Part 1, is summarized below:

Factors:
- Skilled and specialist labour supply,
- Management supply.

Domestic demand conditions:
- Diversity of operations,
- Limited competitive hostility.

Related and Supporting Industries:
- International consultants,
- Diversity of operations.

Strategy, Structure and Rivalry:
- Human resources quality,

French contractors undertaking internationalisation are therefore endowed with a range of national attributes which are employed for relative competitive advantage.

French contractors have various positive attributes which assist internationalisation. The quality of their human resources, the level of industry and conglomerate diversity and the integration with international French consultants all serve to enhance international production. Further, the domestic French market has certain defences of barriers to entry and to trade which serve to protect it from incoming, non-French, companies.

French contractors emphasise these attributes of competitive advantage directly to the individual client as locational economic maturity increases, whilst relatively reducing the importance attached to government level relations, therefore:

- client integration and attitude to the French contractor becomes more important with increasing economic maturity.

- national and government level aspects are less important to the contractor with increasing economic maturity.

Therefore, French contractors seek to maximise their competitive advantages through the relations which are created with clients within more economically mature nations, rather than seeking government association and relationships.

These features are represented within a structure, shown in Figure 9.5, which integrates these aspects of relative competitive advantage and disadvantage within the framework of the Porter model.

Figure. 9.5.

France: International Competitive Profile.

Aspects of Principle Relative Competitive Advantage and Disadvantage.

Related and Supporting Industries.

[Integrated International Consultants]

[Wide Diversity: Inter & Intra Industry]

Factor Conditions.

[Suitable Advanced Labour]

[Suitable Management Supply]

Demand Conditions.

[Wide Diversity: Intra & Inter Industry]

[Protected Home Market]

[Cautious of Foreign & Own Nation Competition Internationally]

Firm Strategy, Structure and Rivalry.

[Suitable Human Resources]

Government.

Chance.

Source: Porter (1990). Fieldwork.

9.12.3 UNITED KINGDOM.

The UK possesses a range of characteristics which comprise the national advantages profile. These are summarize as:

Factor conditions:

Unfavourable human resources supply.

Unfavourable supply of financial support.

Domestic demand conditions:

Poor domestic demand conditions.

Limited client internationalisation benefits.

Beneficial inter & intra industry diversity.

Related and Supporting industries:

Beneficial inter & intra industry diversity.

Strategy,structure and rivalry:

Unfavourable client relations.

High domestic rivalry intra-industry.

High domestic competition intra-industry, few barriers to entry,

Unfavourable financial support.

Government:

Limited financial support,

Unfavourable recent policy.

The international profile of UK contractors, as examined above, correlates many of the aspects of the 'national diamond' to directly affect their competitive position.

Two prime aspects are apparent within this locational assessment, offering examination of progressive economic maturity:

First, aspects of contract cost become more significant within progressively more economically mature nations. This relates to price being more significant within advanced nations since in the case of the UK, product attributes are less competitively distinct.

Secondly, aspects of client and national market relations become more important as locational economic maturity increases. This relates to UK contractors seeking competitive advantage through relationships and also seeking economic and political security within locations in an attempt to avoid risk.

UK contractors have a long history of international construction activity. However, when relatively compared negative aspects of the UK's configuration are apparent. These are expressed within Figure 9.6, which shows that most elements of the Porter framework for the UK international profile contain relatively disadvantaged aspects.

These disadvantages, combined with the influence of the domestic recession have induced caution amongst UK contractors. Locational stability is sought in terms of national economics and politics and additionally through the competitive forces of the location. These aspects are also considered in terms of barriers to entry and to trade. Further, joint ventures are sought as a method to assist and control access within the location.

These aspects are represented within the Porter 'national diamond' configuration, identifying prime aspects of competitive advantage and disadvantage, which constitute the international profile of UK contractors.

Figure. 9.6.

United Kingdom: International Competitive Profile.

Aspects of Principle Relative Competitive Advantage and Disadvantage.

Related and Supporting Industries.

[Wide Inter and Intra Industry Diversity]

Factor Conditions.

[Unsuitable Human Resources]

[Unsuitable Finance]

[Limited Language Skills]

[Cautious of Economic Conditions]

[Seek Local Labour]

Demand Conditions.

[Wide Inter and Intra Industry Diversity]

[Limited Domestic Demand Growth]

[Caution of Non-Tariff-Barriers]

[Limited International Clients]

Firm Strategy, Structure and Rivalry.

[Limited Domestic Client Relationships]

[High Domestic Competition/ Rivalry]

[Unsuitable Finance]

[Seek Work Cooperation]

Government.

[Limited Finance/Investment]

[Good International Government Relations]

[Political Stability Sought]

Chance.

Source. Porter. 1990. Fieldwork.

9.13 SUMMARY.

The Porter 'national diamond' configurations, developed for each home nation were extended into the international market through specific assessment of three, economically differentiated, locations. This assessment enabled the construction of each home nation's international competitive profile. Each nation has a unique configuration, the components of which serve to determine the contractor's capacity and attitude to undertake internationalisation.

This structure and its performance in examining the international market of construction will now be assessed within the four prime attributes of a study of competitive advantage:

'How, Why, Where, When'.

These are examined within the findings of the Porter framework. Further, where appropriate this will be compared and contrasted with those models and structures which assisted the construction of general theories of competitive advantage, examined within Chapter 2.

Does the Porter framework fulfil these needs and how suitable are the results?

References.

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CHAPTER TEN.

COMPETITIVE INTERNATIONALISATION: ANALYSIS AND DISCUSSION.

10.1 Introduction.

The explanations for why certain nations and companies are relatively competitively successful are varied. This research has sought to expose and examine the prime aspects and their configurations which influence competitive advantage within international construction.

In Chapter 1 the prime determinants for an examination of the international environment with regards to undertaking internationalisation through competitive advantage were highlighted as: 'How, Why, Where and When'.

This Chapter will consider these prime determinants in the decision to internationalise in the light of the research and assessment undertaken, primarily within Chapter 9. It will be shown that the adapted Porter (1) framework for international competitive advantage does identify 'how' and 'why' to undertake internationalisation through the characteristics of the national competitive profile. Further, the framework will show that 'where' to internationalise will relate the nature of host location's economic maturity and to the competitive advantage profile of the incoming nation.

The research has also shown that 'when' to internationalise is a decision which will vary according to the characteristics of the home nation, host nations and competitor's profile. This will create a variety of potential scenarios examining 'when' to enter a host location.

The research has therefore shown the development of 'how, why, where and when' for competitive internationalisation within the adapted Porter framework.

The components and findings of this research will now be considered in greater detail.

10.2 Empirical Research.

The analytical empirical research, the survey questionnaire, was conducted in two parts.

The first part examined the aspects and characteristics of each of the home nations through the considerations of indigenous contractors. This provided information within each of the six components of the Porter framework, as noted within Chapter 5. This section of the research examined nation's characteristics which represent 'how and why' to undertake internationalisation through the construction of a 'national diamond' configuration of competitive advantage. The questions asked of the contractors and their relation to the Porter 'national diamond' is shown within section 5.4.6 of Chapter 5.

Although 'how' will be reviewed first it is notable that in certain instances the aspects of 'how and why' are interchangeable, both being causal to internationalisation. This difficulty in the distinction of analytical elements confirms why Dunning's model of the MNE (2) was not used; Ownership and Internalisation aspects (representing 'how and why') are too closely integrated and causal to be adequately separately structurally defined within the analytical model's components. This distinction is hence not actually sought within the Porter framework.

The second part of the empirical research assessed the home nation's considerations of each of the host locations, hence 'where' to internationalise. This showed that the attributes of the home nation's 'national diamond' will produce particular relative international profiles according to how host nations

were assessed. This will allow assessment for 'where' internationalisation is more likely for each home nation, through the application of relative competitive advantage.

The final component of host location assessment and the application of the international competitive profile will be 'when' to internationalise. This will stem from relative competitive advantages of each home nation, how host nation's are assessed and the nature of competitor's profiles.

Therefore a particular international profile will direct a nation's contractors to host locations with a certain level of economic maturity and market conditions, therefore 'where'. However, competitors may have a more favourable competitive profile which will offer greater advantages and hence capture greater market share. Within a finite and competitive market, only when those advantageous aspects of competitors are removed or mitigated in some way, through specific competitive improvements, can internationalisation be realistically undertaken. So, 'when' is an aspect of relative assessment and a process of continually examining competitor's advantages, seeking to displace them with own nation competitive aspects. This is a key feature of this research.

10.3 Research Assessment.

Part 1 of the research determined the nature of the home nation and aspects of competitive advantage to show 'how and why' to undertake internationalisation.

From the empirical research and assessment within Chapter 9, each of the three home nation's aspects of advantage (or disadvantage) were examined, enabling construction of home nation's relative 'national diamond' of competitive advantage.

This configuration will show 'how' to internationalise because it will identify those aspects of the nation's characteristics which constitute competitive advantage and

hence may be emphasised internationally. This assumes that internationalisation is a reasonable decision to undertake having considered the opportunities within the home market and competitive threats. The actual method adopted for internationalisation, from exporting, licensing or foreign direct investment cannot be fully determined until the nature and particular demand profile of the host location is identified. At this stage only the viable options from amongst these methods can be determined.

The national configuration will also show 'why' to internationalise. This is again through the identification of aspects of relative competitive advantage which may be capitalised upon internationally. However, this will also relate to the nature of the host location.

Internalisation for competitive advantage and gain will therefore be the prime motivation for undertaking internationalisation. 'Why' to undertake non-domestic production will relate to the perceived international opportunities compared to the opportunities available within the home nation. If it is considered that internationalisation will offer greater benefits, then further investigations will be undertaken. However, as noted 'how and why' are closely related such that aspects influencing the decision of 'why' will also generally influence 'how' to internationalise.

Within Chapter 9 it was seen through the construction of 'national diamonds' that all assessed home nations had aspects of competitive advantage which could be internationalised. However, relative assessment showed that the competitive profile of Germany and France have more favourable configurations than that of the United Kingdom, which has poor domestic market conditions and high levels of competition. While this may appear to encourage internationalisation by UK contractors this was not apparent from the research since locational assessment showed that the UK's international profile was also relatively unfavourable, thereby limiting

international opportunities. Further, UK contractors consumed resources in preserving their domestic market against competitors.

This will therefore offer a relationship between favourable national configurations enabling internationalisation within a greater range of host locations, while relatively poor national configurations require that resources are directed to preserving existing markets and fending off more favourable competitors.

The nature and characteristics of the 'national diamond' may therefore lead to a decision to internationalise. This decision will relate to the opportunities available within the domestic (home) market, the perceived opportunities elsewhere and the aspects of competitive advantage possessed by the contractor to be emphasised in relation to competitors, ie. 'how and why'.

The second part of the empirical research examined 'where' to internationalise. This was undertaken through a detailed assessment of three economically distinct potential locations by home nation's contractors. This assessed a wide range of locational aspects, the consideration of which was related to the 'national diamond' of the home nation. This assessment included demand, supply, economic, political and socio-cultural characteristics in addition to considering the influence of barriers to entry and to trade.

'Where' to internationalise will relate to the competitive profile of the home nation's 'national diamond' compared to the host location's characteristics, in addition to an assessment of competitive forces; foreign, own nation and from the location itself. This will create an international competitive profile which shows the relative positive (and where appropriate, negative) aspects of the home nation. How this profile relatively compares in terms of the range and nature of

competitive advantage will determine 'where' internationalisation is economically appropriate.

Therefore, where home nation competitive advantages are sufficiently strong to mitigate negative attributes of internationalisation (costs of 'foreigness' etc.) and competitive strengths of others, then internationalisation can be sought within that host location. Further, the characteristics of the host nation will determine the actual method of internationalisation undertaken, ie. exporting, licensing or FDI from those selected as viable within the first stage, noted above.

Within Chapter 2, 'leader following' was examined through the analysis undertaken by Knickerbocker (3) as an oligopolistic reaction of 'where' to internationalise. Although the criticism of this model is that following other home nation contractors into a host location may not be simply 'leader following' it is apparent that when a same-nation contractor successfully undertakes work within a particular host location, other contractors from the home nation will assess that host nation for opportunities. The competitive position of these other home nation contractors will be enhanced through the already successful application of national characteristics for competitive advantage.

Hence, although this method may not be simple 'leader following', there being a variety of possible attractions and causes, it will represent enhanced locational attraction stemming from the actions of home nation competitors. This can be recognised as 'where' to internationalise coming before the judgement of 'how and why' for a particular same-nation company. This action could therefore encourage unsuitable internationalisation because specific firm based advantages, noted later, may have assisted initial internationalisation. These advantages may not necessarily exist amongst other home-based organisations.

Therefore, ideally 'where' to internationalise will lead to a rational examination of 'how and why' to undertake internationalisation within that particular location. This will then lead on to 'when' to enter the host location, thereby ensuring competitive advantage profiles are sought and maintained for each company.

Having determined 'how, why and where' to undertake internationalisation in order to capitalise on attributes of relative competitive advantage, the remaining decision is 'when'.

'When' is a strategic decision which relates to the combination of the international competitive profile of the nation and its particular attributes, the specific form of the company, the nature of the host location and the characteristics of competitors. Therefore, 'when' develops from 'where' to internationalise, stemming from 'how and why'.

From the empirical research the international competitive profile of each home nation was formulated through locational assessment. This revealed how home nation's contractors behaved and what aspects they deemed particularly significant. This information showed that each home nation has a unique array of internationally competitive attributes.

Within Chapter 8, the actual locational distribution of the nation's contractors, as determined through secondary assessment, was shown. This revealed that all home nations have contractors undertaking operations within Portugal and Spain, but only one home nation, Germany, has significant interests within the third and most mature host nation, Italy. The secondary research also showed that Italy possessed the greatest range of barriers to market entry and to trade of the three host locations assessed. Hence Italy was identified as the most difficult of the three host locations to access for construction projects.

The main market aspects which serve to make Italy the most difficult of the three host locations assessed stem from a variety of characteristics which generally relate to enhanced economic maturity. These were identified within Chapter 8 and are seen to include;

- wealthy, economically strong nation with well developed industries and trading relations.

- market sophistication with innovative technology and quality products sought.

- significant influence of political favours which heavily influences the distribution of contracts, notably within the public sector.

- significant influence of the family within the Italian construction industry which serves to emphasise the role of political favours and regional segregation.

- uncertainties within the market including political instability, the presence of unfair contracts and corruption in terms of some contracts distribution and the difficulties experienced in operating within certain regions of the nation, notably within the south.

The attributes of the German contractors, as shown within their 'national diamond' configuration, serve to mitigate many of the negative influences of such potential barriers to access such that success is achieved within the Italian market. The main components of relative competitive advantage for German contractors may therefore be seen as including;

- suitable skilled and specialist labour, project staff capability,

- suitable financing and financial relations,

- high national prestige and reputation,

- strong national currency,

- high technological capacity and skills,

- enlarged domestic market through the recent process of reunification which serves to reduce competitive intensity within the home market.

These characteristics, which produce a 'national diamond' configuration which is more favourable in terms of competitive advantage compared to the configurations of either the French or UK structures, offers sufficient capacity to enable access into the economically mature Italian market.

Therefore, German contractors have used their competitive advantages to overcome barriers to entry which are present within the Italian market. Reputation and prestige of the German product are suited to, and generally will exceed, the demanding requirements of the sophisticated Italian buyers. German technical capacity and skills will also serve to overcome the demands set by Italian buyers for innovative, competent, products. Such German skills are encapsulated within their supply of skilled labour which is generally transferable internationally to undertake projects and hence serves to ensure that required contract standards are achieved by maintenance of contract control. These skills further focus the contractors to particular market sectors, which are maintained by the contractors, within which they operate for maximum competitive advantage by specialisation. Such specialisation enables German contractors to emphasise characteristics of technical capacity and skills.

German contractors are therefore competitively successful within Italy through a combination of attributes. Using financial powers, skilled staff, seeking specialisation through technical capacity and innovation and building upon a strong reputation for quality through international prestige the Italian market has been successfully penetrated.

This condition is important to this research since other home nations, France and the UK, have not successfully entered the Italian market on such a scale. This will assist the

integration of the dynamic aspect of the research, incorporating 'when' to undertake competitive internationalisation.

Although the configurations of both the UK and French 'national diamond' are unique it is seen that neither has a significant relative international reputation, both lack market sector specialisation and financial strengths are not a notable advantage. The UK profile is further deficient through unsuitable labour supplies, a relatively unprotected domestic market and a caution of entering into the international market. These characteristics of the UK and French contractors serve to effectively restrict their activities from the Italian market who, as noted above, seek a more competitively developed configuration which may be represented by the profile of Germany. This condition enables a predictive value to be attached to the function of the nations.

German contractors have determined that Italy is an area of opportunity and the aspects which enable 'when' to undertake internationalisation within this host nation are met through the relative attributes of Germany's competitive advantage and the opportunities presented. The main contractors of the UK and France have cooperation agreements with Italian contractors, but the appropriate 'when' to undertake work in Italy has not yet arisen. This is due to the relative nature of their competitive profiles which are insufficient, as seen within the empirical research and secondary data, to overcome the market barriers present within Italy in addition to the associated enhanced demands of Italian clients, which is related to the nation's advanced economic maturity.

Germany boasts a wide array of relatively positive attributes; financing, prestige and technical skills for example as seen in their international profile within Chapter 9. The German aspects of competitive advantage create an

international profile which is more favourable than that of either France or the UK.

The relatively deficient aspects in the UK's configuration are fairly extensive including; poor client relations, unsuitable financing and human resources and limited government support as shown within Figure 9.7. These attributes will generally focus UK contractor's competitive internationalisation to host locations who are relatively less favourably orientated than themselves, to areas of close cultural integration such as the United States and to initiating projects as speculative developments hence reducing competitive forces although not necessarily risks. This was confirmed through secondary analysis undertaken within Chapter 8.

France has relatively more positive aspects of competitive advantage than the UK. However, from Figure 9.6 it is seen that these focus on to associations with French consultants, the quality of human resources and inter and intra industry diversity. While these may be beneficial within less economically mature nations (Portugal and Spain, or regions where close cultural compatibility exists such as Belgium) they do not offer sufficient relative competitive advantage to generally overcome market barriers within the economically mature nation of Italy.

Therefore, France and the UK will only viably undertake opportunities within Italy when sufficient competitive advantage is formulated within desired sectors, which although variable through the specific characteristics of the contractor (firm based advantages) and the needs of clients, are in this case recognisable from the competitive advantages of Germany as technical skill, financial strength and general prestige. German contractors can use their relative competitive advantage in other economically mature nations for successful internationalisation since their configuration will enable mitigation of prime barriers to entry while specialisation will

allow market opportunities to be closely focussed and hence skills applied.

The characteristics of the three home nations and their 'national diamonds' enables determination of a dynamic condition which accounts 'when' internationalisation is viable.

Therefore from these empirical research findings it may be determined that 'when' to undertake internationalisation within host locations can have a variety of scenarios:

First, if the international competitive profile of the incoming home nation is assessed as competitively favourable compared to others who are already undertaking operations within the host location then 'when' may be seen as a near immediate event through available competitive advantages.

Secondly, if the international competitive profile of the home nation is assessed as relatively uncompetitive compared with others who are undertaking operations within the identified host location, then internalisation to that host nation is not currently a viable option. However, this will allow relatively deficient aspects of competitive advantage to be recognised with a view to improvement.

Thirdly, for host locations where no foreign contractor is undertaking operations (hence no guide to the specific aspects of successful competitive advantage exist) success is more likely to stem from nations with relatively stronger international competitive profiles (such as Germany compared to the UK).

Host nations are distinguishable by their degree of economic maturity, with relatively immature nations being easier to undertake internationalisation within than more mature nations primarily through fewer barriers to entry and to trade.

Relatively mature nations may possess a competitive advantage profile which restricts non-indigenous contractors. These restrictions may take various forms of barriers to entry and to trade. Hence, within such markets only when sufficient aspects of relative competitive advantage exists compared to that of the host location will internationalisation be accepted and viable. This relationship will directly affect the degree of competitive international strength required by home nations seeking host location internationalisation.

Finally, where other contractors of the home nation have already undertaken successful internationalisation within a certain host nation, then aspects of the nation's 'national diamond' are available for other home nation contractors to capitalise, as noted above within 'leader following'. In this case the actual pull towards the host nation will relate to the particular attributes of competitive formation through company (firm based) characteristics.

From this assessment of 'when' it is recognised that the more favourable the international competitive profile of a home nation, the greater is their area of potential internationalisation opportunities in terms of host nation economic maturity.

This aspect of economically distinguished host locations shows that Italy is recognised as the most difficult nation to access. This is contrary to the work of Casson and Norman (4) who sought to show that market entry was more open and hence difficult to restrict within large mature markets. Although product technology is variable within this market, it is seen that market entry becomes more difficult with increasing host locational maturity and the aspects of competitive advantage must be greater to enable advantageous distinction, compared to host nation indigenous contractors.

This is a general model for national configurations which stems from the amalgam of indigenous contractor's profiles. However, it is the individual contractors who compete, not the nation. Individual contractor's competitive profiles can vary from the general model formulated for their home nation and therefore may be identified as more competitively advantaged (or disadvantaged) than the nation's general competitive representative configuration. This relates to their particular firm based advantages.

However, from the empirical research and secondary assessment it was seen that in most cases the degree of competitive differentiation offered through such firm based attributes is not notably significant from the overall national trend. Therefore, each of the national and international profiles formulated through the empirical research are sufficiently representative of most of that nation's contractors.

Rarely, an individual contractor can significantly distinguish themselves from the overall national trend through firm based competitive advantages. This difference may be accommodated by determination of the contractor's particular competitive attributes since these are the prime source of differentiation within the overall national profile.

From the research, Bovis may be recognised as an example of a UK contractor offering such distinction from the overall national competitive profile. This primarily stems from relatively strong internationalisation spurred by the characteristics of their cosmopolitan Chairman and the market sector specialisation undertaken by the company. This has enabled the company to undertake work within a broader international environment and within more demanding markets (by the presence of trade barriers and economic maturity) than the general characteristics of UK contractors. Such distinction is therefore an important competitive advantage and firms in possession of such advantages should be identified from the

overall national assessment since their characteristics will enable them to operate outside the nation's general competitive environment.

The research shows that internationalisation relates to the configuration of the aspects of 'how, why and where', which corresponds to the nation's 'national diamond' of competitive advantage and perceived international characteristics. However, 'when' is a relative concept of the international market and is the key finding of this research.

'When' to internationalise will relate to sufficient and suitable aspects of relative competitive advantage being available to overcome host nation market barriers and the competitive profile of competitors.

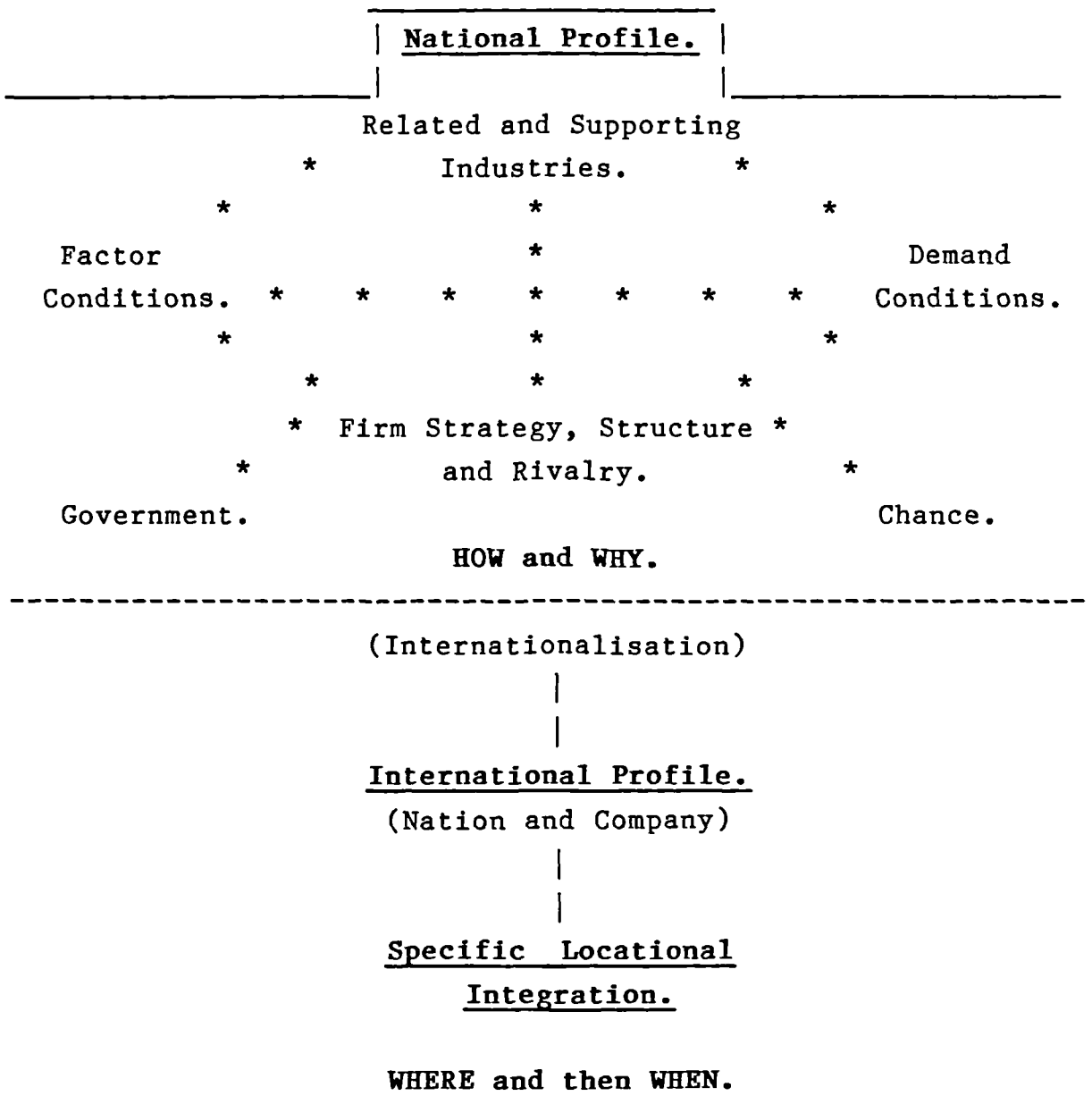
Figure 10.1 shows the general model for the 'Competitive Structure in International Construction'.

From the research it is seen that this framework is appropriate in order to assess and relate the aspects of competitive internationalisation. This framework accommodates the aspects of 'how, why, where and when'.

Hence, 'how and why' to internationalise stem from the National Profile which can then create a decision to internationalise. From the relative International Profile of the nation, Specific Locational Integration will determine 'where' national competitive advantage is most favourable. This stage will also serve to focus the viable 'how' methods, to those appropriate to the actual location. This is then assessed for the dynamic attribute of 'when' to undertake internationalisation, through the scenarios noted previously, which will specifically focus all aspects of 'how and why' to internationalise for relative competitive advantage.

Figure 10.1.

Competitive Structure in International Construction.



Adapted from Porter 1990.

10.4 References.

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CHAPTER ELEVEN.

CONCLUSIONS.

11.1 Introduction.

The prime objective of this research is the analysis and assessment of competitive advantage within international construction. This was applied through the Porter 'national diamond' framework, integrating 'how, why, where and when' to internationalise.

Before determining the prime conclusions of the analysis, the Research Propositions will be examined in order to assess their relative contributions.

11.2 The Research Propositions.

Three propositions were used for the research:

> Proposition One: 'The construction industry has unique characteristics through the demand, supply and product nature which distinguishes the industry from others. This distinction is emphasised within international construction'.

The unique characteristics of the construction industry which were apparent from the literature assessment and research are that construction demand, and hence supply, will be for a unique product variable in each case by location, structure and components.

Internationally host market economic maturity will relate to the competitive configuration required for successful internationalisation, the actual method adopted being variable to market conditions.

Proposition Two: 'Individual nations, through their particular characteristics, are differentiated from other nations. These characteristics form traits possessed by their indigenous contractors'.

From the literature assessment and empirical research it is clearly true that all nations will be different. However, the nature of this difference was the prime aspect of this analysis. This was analysed through the relative application of the Porter 'national diamond' configuration which enabled national attributes to be shown and also compared for aspects of relative competitive advantage.

The relative international profiles for home nations, when applied to specific host locations, showed differences in competitive capacity.

The German national competitive profile was the most favourable emphasising national prestige, technical skills and financial relations. Germany was the only home nation to be undertaking significant operations within all three host locations, hence 'when' to compete was achieved for all levels of host nation economic maturity.

France possessed the next most relatively favourable competitive advantage profile, although prime competitive attributes focussed on to human resources, consultants internationlisation and inter and intra market diversity. The French configuration was not currently appropriate for undertaking projects within relatively highly economically mature nations, but was for less developed hosts; Spain and Portugal, or where cultural integration mitigated barriers to competition.

Finally, the UK's international profile was shown to be relatively deficient in several aspects. 'When' to internationalise into Italy was not an appropriate option due

to insufficient attributes of competitive advantage to overcome barriers to entry and to trade and although projects are under way in both Spain and Portugal, it is notable that many of these are through speculative development thereby reducing the influence of competitors, but not risks.

This national configuration is the representative structure of indigenous contractors. Occasionally however, an individual company may be configured such as to be relatively distinguished from its home nation competitors. Since this will principally influence only firm level characteristics much of the 'national diamond' character will remain applicable for competitive analysis. However, it may be possible for such a company to compete outside the general market range of other same-nation contractors.

> Proposition Three: 'The theoretical framework for the assessment of relative competitive advantage from the general business strategy literature can be successfully applied to international construction, providing explanations which are of theoretical and practical application and importance to the industry'.

The unique characteristics of construction and the relative distinction between nations is successfully accommodated within the research model to show 'how, why, where and when' to undertake internationalisation.

Relative competitive configurations are shown for each assessed nation allowing competitive advantages to be sought while identifying deficient aspects and those which may be enhanced. This national configuration will determine if internationalisation is deemed viable through the components of

'how and why' to internationalise. Aspects and procedures of competitive advantage are therefore identified.

The decision 'where' to internationalise will relate to; the nature of the domestic market, the nature of the 'national diamond' for competitive advantage, perceived international opportunities and competitors relative strengths.

The decision to actually internationalise within a particular market through the components of 'when' should only be undertaken once relative competitive advantages are available and can be capitalised upon, compared to internationalisation within other possible markets.

11.3 Conclusions.

The following conclusions are drawn from the research:

* The research method used, combining attributes of both the Porter and Dunning models, has proved to be useful in the relative assessment for competitive advantage within the international construction environment.

* 'How and Why' to undertake internationalisation for competitive advantage will stem directly from the 'national diamond' configuration of the home nation which expresses prime aspects of advantage (or disadvantage). These distinguish the nation from others. The decision to internationalise will relate to the advantages of the home nation's national configuration in relation to domestic opportunities, perceived foreign opportunities and competitor strengths.

* 'Where' to internationalise will relate to home nation competitive advantages being **potentially** advantageous within host locations, compared to competitor strengths both from the host nation and elsewhere.

* 'When' to internationalise will relate to home nation competitive advantages being **actually** advantageous within host locations, compared to competitor strengths both from the host location and elsewhere.

* Relatively more competitive national configurations and international profiles, enable work to be undertaken within more economically mature nations. This will therefore broaden the areas of international opportunity for favourably configured nation's contractors.

11.4 Suggestions for Future Work.

A prime objective of this research was to analyse characteristic distribution, application and differences of aspects of competitive advantage within international construction. This research also revealed certain aspects which offered potential for future work:

* Government. The role and policy of government can have a significant influence on the profile of contractors. Study of the attributes of this and how differences are effected through a change in policy or government.

* Market protection. The competitive pressures of the domestic market may be examined to determine how protection can be effected, releasing resources for internationalisation.

* Financing. The provision and conditions of finance can be examined to assess improvements in conditions for contractors.

* Human Resources. Staff are a prime construction resource. Quality, availability, motivation and training can be examined to determine how improvements may be made.

The recommendations for areas of future work therefore focus on to certain aspects of the 'national diamond', which are shown to be relatively deficient, principally within the UK.

Statistical analysis of empirical data, as noted within this research report, can be enhanced to assist exposure of aspects of differentiation, particularly through home/host nation relationships, and to allow greater justification of exposed data. Such analysis was seen to offer beneficial application within the research but was not extensively applied due to limitations of time.

APPENDIX 1.

Top 250 International Contractors Share of Construction Export Market (1989).

Contractor	No of	Total Awards.		MidEast		Asia		Africa		Europe		US		Canada		S.America	
Nationality	Firms.	$Mrd.	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%
American	42	38.3	23.1	7.5	30	7.7	24	5.6	27	11.3	30	-	-	3.8	37	2.0	17
Canadian	7	1.0	0.6	-	-	-	-	-	-	-	-	0.4	2	-	-	0.3	3
French	10	13.3	8.0	0.7	3	2.3	7	1.9	9	2.6	7	2.2	8	2.6	25	1.0	9
British	13	12.8	7.8	0.4	2	3.1	10	0.5	3	3.7	10	4.4	17	0.4	4	0.3	3
Italian	38	10.8	6.5	4.0	16	0.9	3	1.8	9	2.4	6	0.5	2	0.1	1	1.2	10
German	16	8.6	5.2	0.8	3	0.9	3	1.7	8	1.5	4	3.0	11	-	-	0.6	5
Dutch	7	2.9	1.7	0.8	3	0.3	1	0.4	2	1.1	3	0.1	-	-	-	0.2	2
Yugoslav	8	0.8	0.5	0.4	2	-	-	-	-	0.2	1	-	-	-	-	0.1	1
Euro-Others	23	3.8	2.3	0.5	2	0.7	2	0.5	2	1.1	3	0.6	2	-	-	0.4	3
Japanese	34	12.6	7.6	1.2	5	6.5	20	0.4	2	0.8	2	2.8	11	0.2	2	0.7	6
Turkish	6	0.9	0.6	0.4	1	-	-	0.6	3	-	-	-	-	-	-	-	-
All Others	46	6.9	4.1	1.0	4	2.0	6	0.8	4	0.6	2	1.7	6	-	-	0.7	6
All Firms	250	112.6		17.8		24.5		14.5		25.4		15.5		7.2		7.6	

Key: - = insignificant data. All $US in Millards.

Source: Engineering News Record. July 5, 1991. pp 27.

APPENDIX 2. GERMANY: Your Company Factors: Results Obtained.

	Level of Importance: Very Low <<< >>> Very High.							
	1	2	3	4	5	6	7	X
1.How important is a large domestic market to your company?						4	2	6.3
2.How important do you find wide variation in market sectors?				4	1	1		4.5
3.How important is the support and trading relations you have with your current clients?						2	4	6.7
4.Do your clients generally offer work internationally? Yes.4. No.2.								
4a. If Yes. How important is this to your company?			1	3				2.8
5.Are your clients innovative in procuring construction? Yes... Some.6. No...								
5a.If Yes. How important is this as a benefit to your company's progress?								1.0
6.How important do you consider Research and Development is for your company.			5	1				3.2
7.How important is your company reputation in obtaining work from clients?						1	5	6.8

	Level of Importance: Very Low <<< >>> Very High.								
	1	2	3	4	5	6	7	X	
8. How important do you consider is the threat of competition in your home market from:									
Existing competitors?					1	5			5.8
New market entrants?		4	2						2.3
9. How important is the need for additional regulations in the control of your home construction market?		5	1						2.2
10. How important are home based consultants working internationally for your company gaining work?	2	2	1		1				2.3
11. How important have been the influence of recent domestic economic developments to your company's progress?				3	3				4.5

11a. Please give examples you consider significant.

12. How important is the significance of your Governments domestic policy to your company's progress?			2	4					3.7
12a. How important is the significance of the policy of the EEC to your company's progress?		1	4	1					3.0
13. How important is your national prestige for your company gaining work internationally?						4	2		6.3

14. Has your company developed particular skills, demanded internationally, due to national physical attributes ie. climatic conditions, mountainous areas or geological form?

Yes.4. No.2.

14a. If Yes - please detail.

	Level of Suitability: Very low <<< >>> Very High.							
	1	2	3	4	5	6	7	X
15. How suitable to your company is the general support of financial institutions?					1	4	1	6.0
16. How suitable is project financing within your current domestic market?				1	3	2		5.2
17. How suitable do you consider is the national supply of management staff to construction?				1	5			4.8
18. How suitable do you consider is your national supply of construction labour at these levels:								
Specialist skilled (ie. specialist sub-contractors)						2	4	6.7
Skilled:						3	3	6.5
Semi-skilled:					2	3	1	5.8
Unskilled:		3	2	1				2.7

19. Have there been any recent chance events which have had a significant impact on the progress of your company? ie. The Gulf war or German re-unification. Yes.5. No.1.

19a. If Yes - please detail.

20. Does the nature of your national currency offer your company an advantage within international trade? Yes.5. No.1.

Germany. Locational Assessments.

How important do you consider are the following factors to your company work within **PORTUGAL.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.		2	4				
2.Market growth prospects.				1	3	1	1
3.Strength of local competition.				1		2	3
4.Strength of foreign competition.				1		4	1
5.Strength of own nation competition.			2	3	1		
6.National historical relations.			3	1	2		
7.Company historical relations.	2	1	2	1			
8.Cultural affinity.		1	4		1		
9.Political stability.		1		3	2		
10.Economic stability.				5	1		
11.Presence of non-tariff barriers.				1	5		
12.Personal tax levels.	2	3	1				
13.Corporate tax levels.		1	3	1	1		
14.Host Government attitude:							
a.to your Firm.			1	4	1		
b.to your Nation.				5	1		
15.Client attitude:							
a.to your Firm.			1	3	2		
b.to your Nation.				3	3		
16.Work cooperation availability.	1	3	2				
17.Consultancy services availability:							
a. From local companies.		3	2	1			
b. From international companies.	1	4	1				
18.Distance from your Head Office.					2	4	
19.Staff travelling costs to location.				2	4		
20.Cost of project staff:							
a.From your home country.	1				2	3	
b.From the host country.	1	3	1	1			
21.Access to suitable local management.	1		3	2			
22.Access to suitable local labour:							
a.operative labour.			2	4			
b.specialist skilled labour.		1	3	2			
23.Living conditions.			1	5			
24.Language compatibility.	3	1		2			
25.Home Government attitude/support to:							
a.Your company.	1	3	2				
b.General internationalisation.			4	2			
26.Competitive advantage of your company through its:							
a.Reputation.					1	5	
b.Technical superiority.						3	3
c.Projects management.						1	5
d.Tender price.			1	4		1	

How important do you consider are the following factors to your company in a decision to undertake work within **SPAIN.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.					5	1	
2.Market growth prospects.					5	1	
3.Strength of local competition.					1	1	4
4.Strength of foreign competition.						2	4
5.Strength of own nation competition.						1	5
6.National historical relations.			4	2			
7.Company historical relations.	3	2		1			
8.Cultural affinity.			4	1	1		
9.Political stability.				2	4		
10.Economic stability.				1	5		
11.Presence of non-tariff barriers.				2	4		
12.Personal tax levels.		1	3	2			
13.Corporate tax levels.				5	1		
14.Host Government attitude:							
a.to your Firm.			2	4			
b.to your Nation.				4	2		
15.Client attitude:							
a.to your Firm.				4	1	1	
b.to your Nation.			1	3	2		
16.Work cooperation availability.	2	3		1			
17.Consultancy services availability:							
a. From local companies.			1	4	1		
b. From international companies.				2	4		
18.Distance from your Head Office.			1	1	3	1	
19.Staff travelling costs to location.			1		4	1	
20.Cost of project staff:							
a.From your home country.					1	3	2
b.From the host country.	2	3	1				
21.Access to suitable local management.	1	1	4				
22.Access to suitable local labour:							
a.operative labour.			3	3			
b.specialist skilled labour.				5	1		
23.Living conditions.		2	1		3		
24.Language compatibility.		3	2		1		
25.Home Government attitude/support to:							
a.Your company.	2	3		1			
b.General internationalisation.	1		4	1			
26.Competitive advantage of your company through its:							
a.Reputation.						5	1
b.Technical superiority.						4	2
c.Projects management.						1	5
d.Tender price.		1	2	3			

How important do you consider are the following factors to your company in a decision to undertake work within **ITALY.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.					5	1	
2.Market growth prospects.					4	1	1
3.Strength of local competition.						1	5
4.Strength of foreign competition.					4	2	
5.Strength of own nation competition.				5		1	
6.National historical relations.				4	1	1	
7.Company historical relations.	2	3		1			
8.Cultural affinity.		1		4	1		
9.Political stability.				4	1	1	
10.Economic stability.				5	1		
11.Presence of non-tariff barriers.				2	4		
12.Personal tax levels.		1	2	3			
13.Corporate tax levels.				5	1		
14.Host Government attitude:							
a.to your Firm.				4	2		
b.to your Nation.				2	4		
15.Client attitude:							
a.to your Firm.		2	3	1			
b.to your Nation.			4	1	1		
16.Work cooperation availability.				4	2		
17.Consultancy services availability:							
a. From local companies.			1	1	4		
b. From international companies.				2	4		
18.Distance from your Head Office.	1		1	4			
19.Staff travelling costs to location.	1		4	1			
20.Cost of project staff:							
a.From your home country.					1	5	
b.From the host country.			1	4	1		
21.Access to suitable local management.	1	3	2				
22.Access to suitable local labour:							
a.operative labour.				5	1		
b.specialist skilled labour.				3	2	1	
23.Living conditions.		1		5			
24.Language compatibility.		2	3	1			
25.Home Government attitude/support to:							
a.Your company.			4	1	1		
b.General internationalisation.			5	1			
26.Competitive advantage of your company through its:							
a.Reputation.						5	1
b.Technical superiority.						5	1
c.Projects management.						2	4
d.Tender price.				3	2		1

APPENDIX 3. FRANCE: Your Company Factors. Results Obtained.

	Level of Importance: Very Low <<< >>> Very High.								
	1	2	3	4	5	6	7	X	
1.How important is a large domestic market to your company?						5	1		6.2
2.How important do you find wide variation in market sectors?					1	5			5.8
3.How important is the support and trading relations you have with your current clients?						5	1		6.2
4.Do your clients generally offer work internationally? Yes.3. No.3.									
4a. If Yes. How important is this to your company?					1	2			3.3
5.Are your clients innovative in procuring construction? Yes.3. Some.3. No...									
5a.If Yes. How important is this as a benefit to your company's progress?					3				3.0
6.How important do you consider Research and Development is for your company.			1	4	1				4.0
7.How important is your company reputation in obtaining work from clients?						5	1		6.2

	Level of Importance: Very Low <<< >>> Very High.							
	1	2	3	4	5	6	7	X
8.How important do you consider is the threat of competition in your home market from:								
Existing competitors?				2	4			4.7
New market entrants?		1	5					2.8
9.How important is the need for additional regulations in the control of your home construction market?	4	2						1.3
10.How important are home based consultants working internationally for your company gaining work?					4	2		5.3
11.How important have been the influence of recent domestic economic developments to your company's progress?					3	3		5.5

11a.Please give examples you consider significant.

12.How important is the significance of your Governments domestic policy to your company's progress?					5	1		5.2
12a. How important is the significance of the policy of the EEC to your company's progress?			4	2				3.3
13.How important is your national prestige for your company gaining work internationally?					5	1		5.2

14.Has your company developed particular skills, demanded internationally, due to national physical attributes ie. climatic conditions, mountainous areas or geological form?

Yes.4. No.2.

14a.If Yes - please detail.

	Level of Suitability: Very low <<< >>> Very High.							
	1	2	3	4	5	6	7	X
15. How suitable to your company is the general support of financial institutions?					5	1		5.2
16. How suitable is project financing within your current domestic market?					4	2		5.3
17. How suitable do you consider is the national supply of management staff to construction?					1	5		5.8
18. How suitable do you consider is your national supply of construction labour at these levels:								
Specialist skilled (ie. specialist sub-contractors)						5	1	6.2
Skilled:						5	1	6.2
Semi-skilled:						6		6.0
Unskilled:						6		6.0

19. Have there been any recent chance events which have had a significant impact on the progress of your company? ie. The Gulf war or German re-unification. Yes.1. No.5.

19a. If Yes - please detail.

20. Does the nature of your national currency offer your company an advantage within international trade? Yes.0. No.6.

France. Locational Assessment.

How important do you consider are the following factors to your company undertake work within **PORTUGAL.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.				2	4		
2.Market growth prospects.					5	1	
3.Strength of local competition.		1	4	1			
4.Strength of foreign competition.					4	1	1
5.Strength of own nation competition.					4	2	
6.National historical relations.		4		2			
7.Company historical relations.		1		4	1		
8.Cultural affinity.	1	4		1			
9.Political stability.		4		2			
10.Economic stability.		3	1	2			
11.Presence of non-tariff barriers.	2	3		1			
12.Personal tax levels.	3			3			
13.Corporate tax levels.	1	4		1			
14.Host Government attitude:							
a.to your Firm.				4	1	1	
b.to your Nation.					2	4	
15.Client attitude:							
a.to your Firm.					1	5	
b.to your Nation.			1	5			
16.Work cooperation availability.		3		3			
17.Consultancy services availability:							
a. From local companies.	1	4		1			
b. From international companies.		3		3			
18.Distance from your Head Office.	5			1			
19.Staff travelling costs to location.	3	3					
20.Cost of project staff:							
a.From your home country.			4	2			
b.From the host country.			4	2			
21.Access to suitable local management.		2	4				
22.Access to suitable local labour:							
a.operative labour.			5	1			
b.specialist skilled labour.			4	2			
23.Living conditions.	3	1		2			
24.Language compatibility.	4	1		1			
25.Home Government attitude/support to:							
a.Your company.		3		3			
b.General internationalisation.		3	2	1			
26.Competitive advantage of your company through its:							
a.Reputation.					4	2	
b.Technical superiority.					3	3	
c.Projects management.					4	2	
d.Tender price.					5	1	

How important do you consider are the following factors to your company in a decision to undertake work within **SPAIN.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.				2	3	1	
2.Market growth prospects.				1	4		1
3.Strength of local competition.	1		3	2			
4.Strength of foreign competition.					4	2	
5.Strength of own nation competition.					5	1	
6.National historical relations.	1	3	1	1			
7.Company historical relations.				5	1		
8.Cultural affinity.	2	3		1			
9.Political stability.	1	3		2			
10.Economic stability.	1	3		1	1		
11.Presence of non-tariff barriers.		2	3	1			
12.Personal tax levels.	2		1	3			
13.Corporate tax levels.		1	2	3			
14.Host Government attitude:							
a.to your Firm.				5		1	
b.to your Nation.				4	1	1	
15.Client attitude:							
a.to your Firm.					2	4	
b.to your Nation.				5		1	
16.Work cooperation availability.		3		3			
17.Consultancy services availability:							
a. From local companies.	1	4		1			
b. From international companies.		5		1			
18.Distance from your Head Office.	4			2			
19.Staff travelling costs to location.	2		1	3			
20.Cost of project staff:							
a.From your home country.			3	2	1		
b.From the host country.		1	5				
21.Access to suitable local management.	1	1	4				
22.Access to suitable local labour:							
a.operative labour.			3	3			
b.specialist skilled labour.			2	3	1		
23.Living conditions.	4			2			
24.Language compatibility.	3	2		1			
25.Home Government attitude/support to:							
a.Your company.	1	3	1	1			
b.General internationalisation.		4		2			
26.Competitive advantage of your company through its:							
a.Reputation.					5		1
b.Technical superiority.					5		1
c.Projects management.					4	2	
d.Tender price.				5		1	

How important do you consider are the following factors to your company in a decision to undertake work within **ITALY.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.					4	2	
2.Market growth prospects.				1	3	2	
3.Strength of local competition.			3	2		1	
4.Strength of foreign competition.			1	2	1	2	
5.Strength of own nation competition.				3	3		
6.National historical relations.	1	3	1	1			
7.Company historical relations.		1	1	4			
8.Cultural affinity.		3		3			
9.Political stability.		4		1	1		
10.Economic stability.		5	1				
11.Presence of non-tariff barriers.	1	5					
12.Personal tax levels.	4			2			
13.Corporate tax levels.		3	1	2			
14.Host Government attitude:							
a.to your Firm.				4	2		
b.to your Nation.				4	2		
15.Client attitude:							
a.to your Firm.						5	1
b.to your Nation.				2	3	1	
16.Work cooperation availability.		3	1	2			
17.Consultancy services availability:							
a. From local companies.		4		2			
b. From international companies.		4		2			
18.Distance from your Head Office.	3	2		1			
19.Staff travelling costs to location.	4	1	1				
20.Cost of project staff:							
a.From your home country.			4	2			
b.From the host country.			4	2			
21.Access to suitable local management.		1		5			
22.Access to suitable local labour:							
a.operative labour.		2	2	2			
b.specialist skilled labour.		1	2	3			
23.Living conditions.	3			3			
24.Language compatibility.	3	1		2			
25.Home Government attitude/support to:							
a.Your company.		2	3	1			
b.General internationalisation.		4	1	1			
26.Competitive advantage of your company through its:							
a.Reputation.					4	2	
b.Technical superiority.					3	3	
c.Projects management.					4	2	
d.Tender price.					5	1	

APPENDIX 4. UNITED KINGDOM: Your Company Factors: Responses Obtained.

	Level of Importance: Very Low <<< >>> Very High.							
	1	2	3	4	5	6	7	X
1.How important is a large domestic market to your company?					1	5	4	6.3
2.How important do you find wide variation in market sectors?				2	5	1	2	5.3
3.How important is the support and trading relations you have with your current clients?			1		6	2	1	5.2
4.Do your clients generally offer work internationally? Yes.3. No.7.								
4a. If Yes. How important is this to your company?		2	1					1.4
5.Are your clients innovative in procuring construction? Yes.2. Some.8. No...								
5a.If Yes. How important is this as a benefit to your company's progress?	1				1			1.4
6.How important do you consider Research and Development is for your company.		2	6	2				3.0
7.How important is your company reputation in obtaining work from clients?						8	2	6.2

	Level of Importance: Very Low <<< >>> Very High.							
	1	2	3	4	5	6	7	X
8. How important do you consider is the threat of competition in your home market from:								
Existing competitors?					4	2	4	6.0
New market entrants?			1	2	2	4	1	5.2
9. How important is the need for additional regulations in the control of your home construction market?	3		4	3				2.7
10. How important are home based consultants working internationally for your company gaining work?		1	2	2	5			3.8
11. How important have been the influence of recent domestic economic developments to your company's progress?					1	7	2	6.1

11a. Please give examples you consider significant. (Principally noted were recession, investment patterns, staff costs and shortages).

12. How important is the significance of your Governments domestic policy to your company's progress?					1	5	4	6.3
12a. How important is the significance of the policy of the EEC to your company's progress?				5	5			4.5
13. How important is your national prestige for your company gaining work internationally?	1				3	6		5.1

14. Has your company developed particular skills, demanded internationally, due to national physical attributes ie. climatic conditions, mountainous areas or geological form?

Yes.4. No.6.

14a. If Yes - please detail.

	Level of Suitability: Very low <<< >>> Very High.							
	1	2	3	4	5	6	7	X
15. How suitable to your company is the general support of financial institutions?			1	4	5			4.4
16. How suitable is project financing within your current domestic market?			2	3	5			4.3
17. How suitable do you consider is the national supply of management staff to construction?				2	6	2		5.0
18. How suitable do you consider is your national supply of construction labour at these levels:								
Specialist skilled (ie. specialist sub-contractors)					7	3		5.3
Skilled:				1	6	3		5.2
Semi-skilled:			2	1	7			4.5
Unskilled:			2	3	5			4.3

19. Have there been any recent chance events which have had a significant impact on the progress of your company? ie. The Gulf war or German re-unification. Yes.1. No.9.

19a. If Yes - please detail.

20. Does the nature of your national currency offer your company an advantage within international trade? Yes.0. No.10..

United Kingdom: Locational Factors.

The results for each of the locations is as follows.

How important do you consider are the following factors to your company in a decision to undertake work within **PORTUGAL.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.			1	2	2	4	
2.Market growth prospects.					1	7	1
3.Strength of local competition.		1		1	4	3	
4.Strength of foreign competition.		2	1	1	3	2	
5.Strength of own nation competition.		2	1	3	3		
6.National historical relations.			3	4	2		
7.Company historical relations.		1	1	4	3		
8.Cultural affinity.		1		3	2	3	
9.Political stability.			2	3	2	2	
10.Economic stability.				1	2	4	2
11.Presence of non-tariff barriers.				7	2		
12.Personal tax levels.		2	2	4	1		
13.Corporate tax levels.		1	2	6			
14.Host Government attitude:							
a.to your Firm.	1		1	3	1	3	
b.to your Nation.				3	2	3	1
15.Client attitude:							
a.to your Firm.				1	2	6	
b.to your Nation.			1	5	3		
16.Work cooperation availability.				2	2	5	
17.Consultancy services availability:							
a. From local companies.		1	4	1	1	2	
b. From international companies.		1	3	2	2	1	
18.Distance from your Head Office.		2	4	3			
19.Staff travelling costs to location.		1	4	3	1		
20.Cost of project staff:							
a.From your home country.		1	1	4	1	2	
b.From the host country.		1	2	4	1	1	
21.Access to suitable local management.			1	5	3		
22.Access to suitable local labour:							
a.operative labour.				4	2	2	1
b.specialist skilled labour.			1	2	3	2	1
23.Living conditions.		1	2	4	2		
24.Language compatibility.		1	2	4	1	1	
25.Home Government attitude/support to:							
a.Your company.			2	4	3		
b.General internationalisation.		1	1	4	3		
26.Competitive advantage of your company through its:							
a.Reputation.				1	2	6	
b.Technical superiority.				1	1	7	
c.Projects management.					1	7	1
d.Tender price.				1	5	3	

How important do you consider are the following factors to your company in a decision to undertake work within **SPAIN.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.					3	6	1
2.Market growth prospects.					1	7	2
3.Strength of local competition.					2	8	
4.Strength of foreign competition.		1	1	1	5	2	
5.Strength of own nation competition.		1	1	3	3	2	
6.National historical relations.			4	5	1		
7.Company historical relations.			3	3	2	2	
8.Cultural affinity.		1	1	4	2	1	1
9.Political stability.				1	3	4	2
10.Economic stability.					3	6	1
11.Presence of non-tariff barriers.			3	4	3		
12.Personal tax levels.		1	4	3	2		
13.Corporate tax levels.		1		5	4		
14.Host Government attitude:							
a.to your Firm.	1			1	3	5	
b.to your Nation.			1	2	3	4	
15.Client attitude:							
a.to your Firm.				1	1	8	
b.to your Nation.				5	4	1	
16.Work cooperation availability.				1	3	6	
17.Consultancy services availability:							
a. From local companies.		1		2	5	1	1
b. From international companies.		2	1	2	3	2	
18.Distance from your Head Office.	1	2	4	3			
19.Staff travelling costs to location.		4	5	1			
20.Cost of project staff:							
a.From your home country.		1	3	1	4	1	
b.From the host country.		1	2	4	2	1	
21.Access to suitable local management.			3	5	2		
22.Access to suitable local labour:							
a.operative labour.			2	3	2	2	1
b.specialist skilled labour.			1	2	5	1	1
23.Living conditions.	2		2	3	3		
24.Language compatibility.			5	2	1	2	
25.Home Government attitude/support to:							
a.Your company.		1	3	3	3		
b.General internationalisation.			6	2	1	1	
26.Competitive advantage of your company through its:							
a.Reputation.			1		3	4	2
b.Technical superiority.				1	3	6	
c.Projects management.					3	5	2
d.Tender price.			2	1	4	3	

How important do you consider are the following factors to your company in a decision to undertake work within **ITALY.**

	Level of Importance: Very Low <<< >>> Very High						
	1	2	3	4	5	6	7
1.Size of the market.		1		1	5	1	
2.Market growth prospects.		1			2	4	1
3.Strength of local competition.					5	2	1
4.Strength of foreign competition.		1		2	3	2	
5.Strength of own nation competition.		1	1	5	1		
6.National historical relations.	1	2	1	3			
7.Company historical relations.	1		1	4	1	1	
8.Cultural affinity.				4	1	3	
9.Political stability.					1	5	2
10.Economic stability.					1	6	1
11.Presence of non-tariff barriers.				3	3		2
12.Personal tax levels.			3	5			
13.Corporate tax levels.				4	3	1	
14.Host Government attitude:							
a.to your Firm.				1	1	4	2
b.to your Nation.				1	2	3	2
15.Client attitude:							
a.to your Firm.					1	5	2
b.to your Nation.				4	1		3
16.Work cooperation availability.				1	3	3	1
17.Consultancy services availability:							
a. From local companies.			2	4	2		
b. From international companies.	1	1	5	1			
18.Distance from your Head Office.		3	5				
19.Staff travelling costs to location.			4	2	1		1
20.Cost of project staff:							
a.From your home country.				4	2		2
b.From the host country.				3	3	2	
21.Access to suitable local management.				1	5	2	
22.Access to suitable local labour:							
a.operative labour.				1	3	2	2
b.specialist skilled labour.				1	3	2	2
23.Living conditions.	1	2	1	3	1		
24.Language compatibility.				4	2	2	
25.Home Government attitude/support to:							
a.Your company.		1	1	4	2		
b.General internationalisation.		1		5	3		
26.Competitive advantage of your company through its:							
a.Reputation.			1	5	2		
b.Technical superiority.			1	4	1	2	
c.Projects management.			1	1	4	2	
d.Tender price.		2	1	1		4	

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